CA7
FP
-75A47
FOLIO

ALIGNMENT SHEETS

FOOTHILLS PIPE LINES LTD.

CA7
FP
-75A47
FOLIO
Government
Publications

ALIGNMENT SHEETS

SECTION H

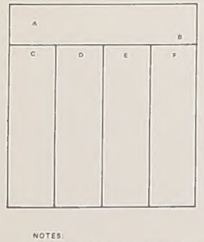
CANADIAN ARCTIC
GAS STUDY LTD.
MAY 26 1975
LIBRARY

FOOTHILLS PIPE LINES LTD.

FOOTHILLS PIPE LINES LTD.
PROPOSED PIPELINE ROUTE
and
EXISTING TRANSPORTATION FACILITIES
Proposed Foothills Pipeline
Westcoast Transmission
Alberta Gas Trunk Line
Trans Canada Pipelines
CANADA
UNITED STATES
HUDSON BAY
FOXE BASIN
LABRADOR SEA
GULF OF ALASKA
ARCTIC CIRCLE
VICTORIA ISLAND
BAFFIN ISLAND
MACKENZIE MOUNTAINS
ROCKY MOUNTAINS
ALEXANDER ARCHIPELAGO
QUEEN CHARLOTTE ISLANDS
NEWFOUNDLAND
NOVA SCOTIA
Great Bear Lake
Great Slave Lake
Lake Athabasca
Reindeer Lake
Lake Winnipeg
Lake Superior
Lake Huron
Lake Michigan
Lake Ontario
Lake Erie
Edmonton
Calgary
Winnipeg
Toronto
Montreal
Ottawa
Detroit
Chicago
Seattle
Vancouver
Prince Rupert
Fort Nelson
Fort Simpson
Fort Smith
Yellowknife
Inuvik
Churchill
Resolution Island
Cape Chidley
Cape Wolstenholme
Mansel Island
Southampton Island
Coats Island
Prince Charles Island
King William Island
Boothia Peninsula
Melville Peninsula
Baffin Island
Ellesmere Island
Greenland
Disko
Mount Robson
Mount Sir James MacBrien
Mount Lucania
Mount Sanford
Mount Michelson
Mount Logan
Mount Rainier
Mount Hood
Mount Shasta
Cape Race
Cape Breton Island
Cape Sable
Cape Disappointment
Cape Blanco
Point St George
Vancouver Island
Queen Charlotte Sound
Dixon Entrance
Hudson Strait
Davis Strait
Foxe Channel
Gulf of St Lawrence
Grand Banks of Newfoundland
Cape Dalhousie
Cape Bathurst
Cape Parry
Mackenzie Bay
Amundsen Gulf
Coronation Gulf
Queen Maud Gulf
Gulf of Boothia
Cape Dorset
Frobisher Bay
Home Bay
Hoare Bay
Cumberland Peninsula
Cape Chidley
Ungava Bay
Akimiski Island
James Bay
Belcher Islands
Churchill-Inishtrahull 2760

A. DRILL HOLE DATA

1. DATA PRESENTATION



A - DRILL HOLE NUMBER.

B - DATE BORING MADE.

C - SOIL AND BEDROCK DESCRIPTION (see Section B, "Soil Description")

D - DEPTH IN FEET OF STRATA CHANGES, AND SYMBOLIC REPRESENTATION OF SOIL AND BEDROCK.

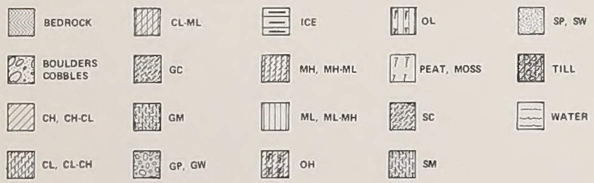
E - PERMAFROST CONDITIONS:
COLUMN SHADED - INDICATES FROZEN SOIL.
COLUMN UNSHADED - INDICATES UNFROZEN SOIL.
— INDICATES INTERPRETED DEPTH OF ACTIVE LAYER.
FROZEN SOIL DESCRIBED IN ACCORDANCE WITH NRC PERMAFROST DESCRIPTION SYSTEM (see Section C).

F - WATER OR ICE CONTENT EXPRESSED IN PERCENT OF DRY WEIGHT OF SOIL SOLIDS.

* - INDICATES BORING MADE IN AREA EXHIBITING SURFACE DISTURBANCES (e.g. cleared areas, seismic lines, winter roads).

NOTES:
1. A double line at the bottom of the drill hole column indicates "Refusal" (i.e. the drill could not penetrate further).
2. The drill hole data is not plotted to scale, but the water or ice content determinations are shown in their true relative position within a given stratum.

2. GRAPHIC SOIL SYMBOLS
See Section B for explanation of soil description terms and symbols.



B. SOIL DESCRIPTION (PART 1)

1. ABBREVIATIONS USED FOR SOIL DESCRIPTIONS

BDRK	Bedrock	lnsd	lensed	SHL	Shale
bldr(s)	boulder(s)	lyrd	layered	sm(s)	seam(s)
cbl(s)	cobble(s)	Ms	Moss	SS	Sandstone
cvr	cover	org	organic	SS	Siltstone
fgmt(s)	fragment(s)	Pt	Peat	veg	vegetation
Gs	Grass	rt(s)	root(s)	vvd	varved
wd	wood	Wx	Weathered (bedrock)		

NOTE:
In those instances where the field personnel have identified a stratum as TILL on the boring logs, this term has been included in the stratum description on the alignment sheets. Where the stratum has been identified as 'TILL-like', it has been noted as 'TILL' on the alignment sheets. Till is a geological term describing soil deposited by glacial action which characteristically consists of a heterogeneous mixture of clay through gravel soil sizes, containing varying amounts of cobbles and boulders.

2. REFERENCES

(1) UNIFIED SOIL CLASSIFICATION SYSTEM, TECHNICAL No. 3-357; prepared for Office, Chief of Engineers by Waterways Experimental Station, Vicksburg Mississippi, Corp of Engineers, U.S.A. Army; Volume 1, March 1953.
(2) Wagner, A.A., "Classifying Soils by Unified Soil Classification System, in PROCEDURES FOR TESTING SOILS, published by American Society for Testing and Materials, Philadelphia, Pa.; Fourth Edition (revised), 1963; Chapter 1.
(3) EARTH MANUAL: prepared by Bureau of Reclamation, U.S.A. Dept. of Interior, First Edition (revised), 1963; Chapter 1.
(4) Burmister, D.M.; Identification of Soils; in PROCEDURES FOR TESTING SOILS, published by American Society for Testing and Materials, Philadelphia, Pa.; Fourth Edition, December 1964, pp. 221 - 233.

C. PERMAFROST DESCRIPTIONS

1. GENERAL
The nature of the frozen soils encountered in the borings has been described in accordance with the N.R.C. system of permafrost description which can be found in Reference 1. This system is summarized in the tables, Section C.2 below. In some instances, these descriptions are given for frozen active layer soils; in other instances insufficient data was recorded on the boring logs to allow assignation of a permafrost category.

2. PERMAFROST DESCRIPTION SYSTEM

A. ICE NOT VISIBLE

GROUP SYMBOL	SUBGROUP DESCRIPTION	SUBGROUP SYMBOL	
N	POORLY BONDED OR FRIABLE	Nf	
	NO EXCESS ICE WELL - BONDED EXCESS ICE	Nb	Nbn
			Nbe

B. VISIBLE ICE LESS THAN 1 INCH THICK

GROUP SYMBOL	SUBGROUP DESCRIPTION	SUBGROUP SYMBOL
V	INDIVIDUAL ICE CRYSTAL OR ICE INCLUSIONS	Vx
	ICE COATINGS ON PARTICLES	Vc
	RANDOM OR IRREGULARLY ORIENTED ICE FORMATIONS	Vr
	STRATIFIED OR DISTINCTLY ORIENTED ICE FORMATIONS	Vs

C. VISIBLE ICE GREATER THAN 1 INCH THICK

GROUP SYMBOL	SUBGROUP DESCRIPTION	SUBGROUP SYMBOL
ICE	ICE WITH SOIL INCLUSIONS	ICE
	ICE WITHOUT SOIL INCLUSIONS	ICE

NOTES: (1) The above charts have been adapted from Table 1 in Reference 1.

3. REFERENCES

(1) Pihlainen, J.A., and Johnston, G.H.: GUIDE TO A FIELD DESCRIPTION OF PERMAFROST FOR ENGINEERING PURPOSES: TECHNICAL MEMORANDUM 79 (NRC 7576); PUBLISHED BY Associate Committee on Soil and Snow Mechanics, National Research Council of Canada, Ottawa, Ontario, October 1963.

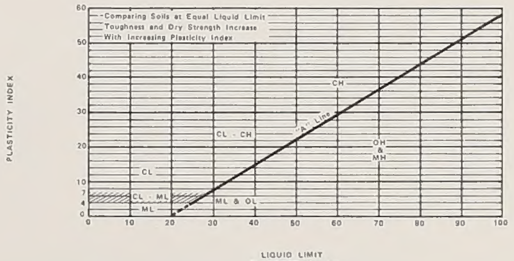
B. SOIL DESCRIPTION (PART 2)

3. SOIL IDENTIFICATION SYSTEM
The soil description obtained from the drilling programs have been converted into abbreviated soil descriptions on the alignment sheets using the Unified Soil Classification (USC) system symbols (see section B.4). The soil descriptions appear in area C of the boring column (see Section A-1). The classification is given in bold type, and data which modifies or augments the basic USC symbol appears in lighter type. The terms which modify or augment the USC descriptions are based on a system of soil identification developed by D. Burmister. An abbreviated description of the Burmister system is presented in Section B-5. The abbreviation and terms used which are not covered by the two systems are listed in Section B-1.

4. UNIFIED SOIL CLASSIFICATION SYSTEM
A complete description of the USC system of soil classification will be found in Reference 1, described in Section B - 4. Descriptions of this system will also be found in Reference B - 2.

UNIFIED SOIL CLASSIFICATION (Including Identification and Description)

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES	FIELD IDENTIFICATION PROCEDURES (excluding particles larger than 3 inches and basing fraction on estimated weights)	LABORATORY CLASSIFICATION CRITERIA		
COARSE-GRAINED SOILS More than half of material is larger than No. 200 sieve size. The No. 200 sieve size is about the smallest particle visible to the naked eye	GRAVELS More than half of coarse fraction is larger than No. 4 sieve size (For visual classification, the ¼ in. sieve may be used as equivalent to the No. 4 sieve size)	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.	Wide range in grain size and substantial amounts of all intermediate particle sizes	Determine percentage of gravel and sand from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size) coarse grained soils are classified as follows: Less than 5% GW, GP, SW, SP; More than 12% GM, GC, SM, SC; 5% to 12% Borderline cases requiring use of dual symbols	$C_u = \frac{D_{60}}{D_{10}}$ Greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between one and 3	
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines	Predominantly one size or a range of sizes with some intermediate sizes missing		Not meeting all gradation requirements for GW	
		Gravels with fines (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures	Nonplastic fines or fines with low plasticity (see ML below)		Atterberg limits below "A" line or PI less than 4	Above "A" line with PI between 4 and 7 are borderline cases requiring use of dual symbols
			GC	Clayey gravels gravel-sand-clay mixtures	Plastic fines (see CL below)		Atterberg limits above "A" line or PI greater than 7	
	SANDS More than half of coarse fraction is smaller than No. 4 sieve size	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines	Wide range in grain size and substantial amounts of all intermediate particle sizes		$C_u = \frac{D_{60}}{D_{10}}$ Greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between one and 3	
			SP	Poorly-graded sands, gravelly sands, little or no fines	Predominantly one size or a range of sizes with some intermediate sizes missing		Not meeting all gradation requirements for SW	
		Sands with fines (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures	Nonplastic fines or fines with low plasticity (see ML below)		Atterberg limits below "A" line or PI less than 4	Limits plotting in hatched zone with PI between 4 and 7 are borderline cases requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures	Plastic fines (see CL below)		Atterberg limits above "A" line or PI greater than 7	
FINE-GRAINED SOILS More than half of material is smaller than No. 200 sieve size	SILTS AND CLAYS Liquid limit less than 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity				
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays				
			OL	Organic silts and organic silty clays of low plasticity				
	SILTS AND CLAYS Liquid limit greater than 50		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts				
			CH	Inorganic clays of high plasticity, fat clays				
			OH	Organic clays of medium to high plasticity, organic silts				
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils				



PLASTICITY CHART

For laboratory classification of fine-grained soils

NOTES:
1. The above chart has been adapted from Table 1 in Reference B - 2
2. Soils possessing characteristics of two groups are designated by combinations of group symbols. For example, GW-GC, well-graded sand-gravel mixture with clay binder.
3. Clay soils of intermediate or medium plasticity (i.e. liquid limit between 30 and 50) are indicated by the compound symbol CL-CH. Clay soils with a liquid limit greater than 50 but less than 55 are indicated by the compound symbol CH-CL.
4. All sieve sizes on the above chart are U.S. standard.

5. BURMISTER SOIL IDENTIFICATION SYSTEM

The Burmister Soil Identification System has been used to augment or modify the USC symbols. These modifying terms appear in lighter type in the descriptions. The chart presented below summarizes the elements of the Burmister system which appear on the alignment sheets. A complete description of this system can be found in Reference B - 2

Definitions of Terms Identifying The Composition of Granular Soils						Definitions of Terms Identifying The Gradation of Granular Components		
Component	Identification: Written	Identification: Symbol	Terms Identifying Proportions: Written	Terms Identifying Proportions: Symbol	Defining Range of Percentages by Weight	Gradation Designation for Identification: As Written	Gradation Designation for Identification: Symbol	Defining Proportions
Principal Component	GRAVEL SAND SILT	G S $	— — —	— — —	50 or more	coarse to fine or coarse medium to fine	cf cmf	All fractions greater than 10 per cent of the component, but the medium component predominates.
Minor Component	Gravel Sand Silt	G S $	and some little trace	a. s. l. t.	35 to 50 20 to 35 10 to 20 1 to 10	coarse to medium medium to fine medium fine	cm mf m f	less than 10 per cent fine less than 10 per cent coarse less than 10 per cent coarse and fine less than 10 per cent coarse and medium

NOTES: (1) The chart has been adapted from Table 11 in Reference B - 4
(2) Drill hole data is shown on the alignment sheets only for those drill holes which are within or near the mosaic area on the alignment sheets.

TERRAIN MAPPING

TERRAIN TYPING (THE MAPPING OF SURFICIAL GEOLOGICAL UNITS AND A LIMITED NUMBER OF LANDSCAPE FEATURES) WAS UNDERTAKEN ALONG THE APPLICANT'S PIPELINE ROUTE BY SPROULE ASSOCIATES LIMITED, OF CALGARY ALBERTA.

TERRAIN TYPING IS ACCOMPLISHED BY THE STEROSCOPIC EXAMINATION OF VERTICAL AIRPHOTOS BY AN EXPERIENCED PHOTOGEOLOGIST. THIS THREE-DIMENSIONAL STUDY OF THE AIRPHOTOS IS DONE IN CONJUNCTION WITH THE USE OF AVAILABLE PUBLISHED AND OTHER INFORMATION.

THE VARIOUS TYPES OF SURFICIAL DEPOSITS HAVE CHARACTERISTICS WHICH CAN BE RECOGNIZED ON THE AIRPHOTOS. THE SAME IS TRUE WITH OUT-CROPPING BEDROCK AND TERRAIN FEATURES. THE PHOTOGEOLOGIST CAN RECOGNIZE THESE CHARACTERISTICS AND THUS MAP THE VARIOUS TYPES OF DEPOSITS. HE CAN ALSO RECOGNIZE CHANGES OR DIFFERENT PHASES WITHIN A GIVEN TYPE OF DEPOSIT, CAUSED BY PERMAFROST, VARYING SOURCE MATERIAL, ETC. THESE VARIATIONS ARE INDICATED BY MODIFIERS WHICH TOGETHER WITH THE MAIN TERRAIN TYPES GIVE A DISTINCTIVE MAP UNIT.

FROM HIS EXPERIENCE AND KNOWLEDGE OF GEOLOGY, THE INTERPRETER CAN ASCRIBE CERTAIN CHARACTERISTICS TO EACH MAP UNIT. THESE CHARACTERISTICS, SUCH AS GRAIN SIZE AND ICE CONTENT, GIVE AN INDICATION OF THE SUITABILITY OF THAT MAP UNIT FOR CONSTRUCTION AND ITS SENSITIVITY FOR POTENTIAL ENVIRONMENTAL DAMAGE.

ANALYSIS OF FIELD BORING DATA IS REQUIRED TO DETERMINE THE VARIATIONS OF PROPERTIES, SUCH AS MATERIAL AND GROUND ICE CONTENT, IN EACH MAP UNIT AS WELL AS THE AVERAGE CONDITIONS. RIVER DEPOSITS, EITHER RECENT SUCH AS ALLUVIAL FLOOD PLAIN OR GLACIAL SUCH AS OUTWASH PLAIN, CAN VARY IN COMPOSITION FROM GRAVEL AND SAND ALONG FORMER ACTIVE CHANNELS TO SILT AND CLAY IN FORMER BACKWATER AREAS. GLACIAL MORAINE, OR THE MATERIAL DEPOSITED BY THE FORMER ICE SHEETS, (RKM OR HM) CAN HAVE A BOULDER-RICH TILL IN THE HUMMOCKS OR RIDGES WHILE THE KETTLES OR OTHER DEPRESSIONS CONTAIN LACUSTRINE DEPOSITS OF SILT AND CLAY SIMILAR TO THE GLACIAL LAKE BASINS OR LACUSTRINE BASINS. IN THE PEATLANDS OF THE SOUTH MACKENZIE THE PALAS OR RAISED PEAT PLATEAUS MAY CONTAIN ABUNDANT GROUND ICE WHILE THE SURROUNDING SWAMPY GROUND IS ICE-FREE.

TERRAIN TYPING IS A NECESSARY PRELUDE TO A FIELD DRILLING PROGRAM. WITHOUT THE PRELIMINARY DELINEATION OF VARIOUS UNITS ON THE AIRPHOTOS AND PHOTOMOSAICS THERE WOULD BE NO LOGICAL BASIS FOR SELECTING THE DRILL HOLE LOCATIONS.

ONCE THE VARIOUS MAP UNITS HAVE BEEN DELINEATED AND THEIR CHARACTERISTICS DETERMINED, THEY CAN BE USED AS AN AID TO DETERMINE THE BEST CHOICE OF ROUTE FOR PIPELINES AND SITES FOR ANCILLARY FACILITIES. THE INFORMATION PROVIDES A FOUNDATION UPON WHICH TO MAKE DECISIONS CONCERNING CONSTRUCTION METHODS, PHYSICAL ENVIRONMENTAL PROTECTION, AND COSTS.

THE TERRAIN MAP UNIT SYMBOLS WERE GENERALLY CREATED FROM THE INITIAL LETTERS OF THE PHRASE DESCRIBING THE LANDFORM THEY DESIGNATE. FOR EXAMPLE, "AFP" REPRESENTS "ACTIVE FLOOD PLAIN"; "GLB" REPRESENTS "GLACIAL LAKE BASIN". OTHER SYMBOLS ARE CONVENIENT ABBREVIATIONS OF THE LANDFORM ELEMENT, E.G., "TK" FOR THE THERMOKARST FEATURES. A COMPLETE ASSEMBLAGE OF SUCH UNITS IS CALLED A "TERRAIN LEGEND". FOR CONVENIENCE, AN ABBREVIATED "TERRAIN TYPING LEGEND" PROVIDING A BRIEF DESCRIPTION OF THE TERRAIN MAP UNITS, IS PRESENTED ON THE RIGHT HAND SIDE OF EACH ALIGNMENT SHEET.

CONSIDERABLE VARIABLE IN THE NATURE OF THE MATERIALS COMPRISING A LANDFORM CAN OCCUR DEPENDING ON THE CLIMATE, TOPOGRAPHY AND GEOLOGY OF A GIVEN REGION (E.G., MOUNTAINS VS. PLAINS AREA; SEDIMENTARY VS. IGNEOUS BEDROCK). IN ORDER THAT SUCH VARIATIONS COULD BE TAKEN INTO ACCOUNT, THE TERRAIN MAPPING IS PRESENTED IN REGIONAL SEGMENTS CALLED "PHYSIOGRAPHIC DIVISIONS". THE HEADING OF THE PHYSIOGRAPHIC DIVISION APPEARS AT THE TOP OF THE ABBREVIATED TERRAIN LEGEND ON THE ALIGNMENT SHEETS, AND THE LOCATION OF THESE SEGMENTS IS SHOWN ON "THE MASTER INDEX MAPS" PREFACING THE ALIGNMENT SHEET. VOLUME, SUBSECTIONS H - 1 AND H - 2

WINTER TERRAIN SENSITIVITY

IN WINTER WHEN THE GROUND IS FROZEN AND SNOW COVERED, THE SENSITIVITY RATINGS ARE LOW AND LESS DEPENDENT ON CLIMATIC OR OTHER VARIABLES, EXCEPTIONS ARE DESCRIBED IN THE NOTES BELOW (i).

SUMMER TERRAIN SENSITIVITY

THE FOLLOWING RATINGS FOR SUMMER TERRAIN SENSITIVITY APPLY TO THAT PORTION OF THE YEAR WHEN THE GROUND IS EITHER THAWED OR THAWING.

1. LOW - NO, OR MINIMAL, UNINTENDED TERRAIN DAMAGE (ii) SHOULD OCCUR AS A RESULT OF ARTIFICIAL DISTURBANCE. (iii) ONLY CONVENTIONAL MEASURES NEED BE TAKEN TO PROTECT SUCH TERRAIN. (iv)
2. MODERATE - SOME MINOR, UNINTENDED TERRAIN DAMAGE WILL PROBABLY OCCUR AS A RESULT OF ARTIFICIAL DISTURBANCE, SOME EXTRA MEASURES SHOULD BE TAKEN TO PROTECT SUCH TERRAIN FROM CONSTRUCTION.
3. HIGH - CONSIDERABLE UNINTENDED TERRAIN DAMAGE WILL PROBABLY OCCUR AS A RESULT OF ARTIFICIAL DISTURBANCE. EXTRA MEASURES SHOULD BE TAKEN TO PROTECT SUCH TERRAIN FROM CONSTRUCTION ACTIVITY.
4. EXTREME - SEVERE UNINTENDED TERRAIN DAMAGE WILL PROBABLY OCCUR AS A RESULT OF ARTIFICIAL DISTURBANCE, SUCH TERRAIN SHOULD BE AVOIDED WHEREVER POSSIBLE, AT LEAST DURING THE PERIOD TO WHICH THIS RATING APPLIES, OTHERWISE VERY EXTENSIVE PROTECTIVE MEASURES SHOULD BE TAKEN.

s - SLOPE (v) - THE NUMBERS FOLLOWING THE MODIFIER 's' INDICATE THE LEVEL OF SENSITIVITY ON, OR ADJACENT TO, SLOPES OF 5° TO 15° (9% TO 27%) AND ON SLOPES GREATER THAN 15°.

w - WET - THE NUMBER FOLLOWING THE MODIFIER 'w' INDICATES THE LEVEL OF SENSITIVITY WHEN TERRAIN THAT IS NORMALLY LESS WET BECOMES VERY WET AS THE RESULT OF SPRING THAW OR HEAVY RAIN.

NOTES
(i) DRY LOOSE SANDS AND/OR GRAVELS, WHICH HOLD NO WATER NEAR THE SURFACE TO FREEZE AND BIND THEM AND WHICH ARE EXPOSED TO THE WIND SO THAT MOST SNOW IS REMOVED, HAVE VIRTUALLY THE SAME SENSITIVITY DURING WINTER AND SUMMER. DISTURBING MODERATE OR STEEP SLOPES OF SUCH MATERIAL MAY CAUSE SLIDING IN EITHER SEASON.
(ii) UNINTENDED TERRAIN DAMAGE MEANS ADDITIONAL DAMAGE OCCURRING AS A RESULT OF INTENTIONAL ALTERATIONS TO THE TERRAIN. THE EXCAVATION OF A QUARRY OR AGGREGATE PIT IS INTENDED TERRAIN DAMAGE, BUT IF SLUMPING OR SLIDING ENLARGE THE HOLE SUCH ENLARGEMENT IS UNINTENDED TERRAIN DAMAGE.
(iii) ARTIFICIAL DISTURBANCE IS CAUSED BY SUCH HUMAN ACTIVITIES AS CLEARING, STARTING FOREST OR TUNDRA FIRES, AND CONSTRUCTION ACTIVITIES.
(iv) PROTECTIVE MEASURES INCLUDE GRAVEL PADS OR BERMS TO INSULATE THE PERMAFROST AGAINST MELTING, LARGE WHEELED OR OTHER SUITABLY DESIGNED VEHICLES THAT EXERT VERY LOW PRESSURE ON THE GROUND, AND AVOIDANCE OF TRAFFIC DURING THE THAWING SEASON.
(v) IF AN ARTIFICIAL SLOPE IS CREATED BY EXCAVATION, THE AFFECTED TERRAIN UNIT WILL ACQUIRE A HIGHER 'S' SENSITIVITY RATING AT THAT LOCALITY RATHER THAN THE LOWER RATING SHOWN FOR THE SURROUNDING UNCUT GENTLER TERRAIN.

EXAMPLE: S-1-3, s1w2-3 & 2w3-3

WHERE: S = SUMMER TERRAIN SENSITIVITY
1-3 = RANGE OF SENSITIVITY ON GROUND SLOPING LESS THAN 5°
s1w2-3 = RANGE OF SENSITIVITY ON GROUND SLOPING 5° TO 15°
& 2w3-3 = RANGE OF SENSITIVITY ON GROUND SLOPING MORE THAN 15°

WHEN NO RATING IS GIVEN FOR GROUND SLOPING LESS THAN 5°, IT IS BECAUSE THAT UNIT HAS SLOPES OF 5° OR MORE IN ALL AREAS.

WHEN ONLY ONE RANGE OF RATINGS IS GIVEN AFTER 's', IT INDICATES SIMILAR SENSITIVITY FOR ALL SLOPES OF 5° OR MORE, OR ELSE THE UNIT DOES NOT HAVE SLOPES LESS THAN 15°, E.G., TALUS SLOPES.

SOME FLAT OR VERY GENTLY SLOPING TERRAIN TYPES WILL HAVE SLOPES OF 5° OR MORE ONLY WHEN THOSE SLOPES ARE PRODUCED ARTIFICIALLY, I.E., BY EXCAVATION.

DESCRIPTION OF ALIGNMENT SHEETS AND OVERLAYS

THIS VOLUME CONTAINS A GROUP OF AIR PHOTOMOSAIC STRIP MAPS CALLED ALIGNMENT SHEETS. THE PROPOSED LOCATION OF THE PIPELINE AND ITS RELATED FACILITIES ARE SHOWN ON EACH SHEET. THE SHEETS CONTAINED IN THIS VOLUME SHOW THE COMPLETE ROUTE; THE TOP SHEET COVERING THE MOST NORTHERN END OF THE AREA AND THE FOLLOWING SHEETS MOVING TO THE SOUTH. THE LOCATION OF THE PROPOSED MACKENZIE HIGHWAY IS ALSO SHOWN ON THE ALIGNMENT SHEETS. THIS LOCATION IS TENTATIVE AND MAY BE CHANGED IN SEVERAL AREAS. MINOR ADJUSTMENTS MAY HAVE TO BE MADE TO THE PIPELINE AND RELATED FACILITIES LOCATIONS TO AVOID CONFLICT AREAS WHEN THE HIGHWAY LOCATION IS FINALLY SELECTED.

ALIGNMENT SHEETS

A MASTER INDEX MAP IS FOUND IN THE FRONT OF BOTH SUBSECTIONS H-1 AND H-2. A PORTION OF THIS IS SHOWN IN THE LOWER RIGHT-HAND CORNER OF EACH ALIGNMENT SHEET TO INDICATE THE PERTINENT SHEET'S GEOGRAPHIC LOCATION. THE MASTER INDEX MAPS SHOW THE EXTENT OF THE PIPELINE ROUTES DIVIDED INTO FIVE PHYSIOGRAPHIC DIVISIONS. WITHIN EACH DIVISION THE ALIGNMENT SHEETS HAVE BEEN ASSIGNED A SHEET NUMBER PREFIXED BY THE PHYSIOGRAPHIC DIVISION NUMBER.

ie. MACKENZIE PLAIN DELTA PHYSIOGRAPHIC DIVISION 0200-01
ANDERSON PLAIN PHYSIOGRAPHIC DIVISION 0300-01
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION 0400-01
GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION 0500-01 AND 0600-01
BEAR SLAVE UPLAND DIVISION 0700-01

ie. SHEET No. 14 LOCATED IN THE ANDERSON PLAIN PHYSIOGRAPHIC DIVISION WOULD BE REFERRED TO AS 0300-14. THIS DRAWING NUMBER WOULD APPEAR IN THE BOTTOM RIGHT HAND CORNER OF THE TITLE BLOCK IN THE ALIGNMENT SHEET.

AERIAL PHOTOGRAPHY

AERIAL PHOTOGRAPHS USED TO PRODUCE THE MOSAIC WERE OBTAINED FROM FEDERAL GOVERNMENT SOURCES IN OTTAWA. THE PHOTOGRAPHY WAS FLOWN BETWEEN 1970 AND 1973 AT A GENERAL PHOTO SCALE OF 1:70,000. ENLARGEMENT OF THE CONSTRUCTED MOSAIC TO A NOMINAL HORIZONTAL SCALE OF 1" = 2000' WAS USED FOR ALIGNMENT SHEET PRESENTATION.

MACKENZIE HIGHWAY

THE ACCESS ROADS TO COMPRESSOR STATION SITES LOCATED NORTH OF WRIGLEY WILL BE CONSIDERED TEMPORARY AND WILL ORIGINATE AT THE WHARF SITES AS ILLUSTRATED ON THE ALIGNMENT SHEETS IN THIS VOLUME.
IF THE MACKENZIE HIGHWAY IS COMPLETED NORTH OF THIS LOCATION IN SUFFICIENT TIME TO FACILITATE PIPELINE CONSTRUCTION, IT WOULD THEN BE THE APPLICANT'S INTENTION TO PROVIDE PERMANENT ACCESS ROADS JOINING THE COMPRESSOR STATION SITES TO THE COMPLETED HIGHWAY.

ALIGNMENT SHEET DATA

THE FOLLOWING INFORMATION APPEARS ON THE ALIGNMENT SHEETS:

1. PIPELINE AND FACILITIES LOCATION

   THE FACILITIES REFERRED TO ARE PIPELINE COMPRESSOR STATIONS, METER STATIONS, STAGING AREAS, BORROW AREAS, AND ASSOCIATED PERMANENT AND TEMPORARY ACCESS ROADS PLANNED BY THE APPLICANT. PIPELINE MILEPOSTS ARE ALSO SHOWN.

2. TERRAIN AND SOILS INFORMATION

   AIRPHOTO INTERPRETED TERRAIN TYPING HAS BEEN MAPPED ON THE PHOTOMOSAIC PORTION OF THE ALIGNMENT SHEETS. LOCATION OF DRILL HOLES CONFIRMING THE TERRAIN TYPING HAVE ALSO BEEN SHOWN ON THE MOSAIC DATA SPACE. A DRILL HOLE DATA LEGEND HAS BEEN INCLUDED IN THE TOP RIGHT-HAND CORNER OF THE ALIGNMENT SHEETS.

   A LEGEND OF THE TERRAIN TYPES INDICATED ON THE MOSAIC PHOTO PORTION FOR THAT PHYSIOGRAPHIC REGION TOGETHER WITH THEIR SENSITIVITY RATING IS SHOWN ON THE RIGHT-HAND SIDE OF THE ALIGNMENT SHEETS.

3. PROFILE

   AN APPROXIMATE PIPELINE PROFILE AND OFF RIGHT-OF-WAY ACCESS ROAD PROFILE IS SHOWN ON EACH ALIGNMENT SHEET AT A HORIZONTAL SCALE OF 1" = 2000' AND A VERTICAL SCALE OF 1" = 200'. THE PROFILE WAS PLOTTED FROM 1:50,000 SERIES A721 TOPOGRAPHIC MAPS.

4. REFERENCE DRAWINGS

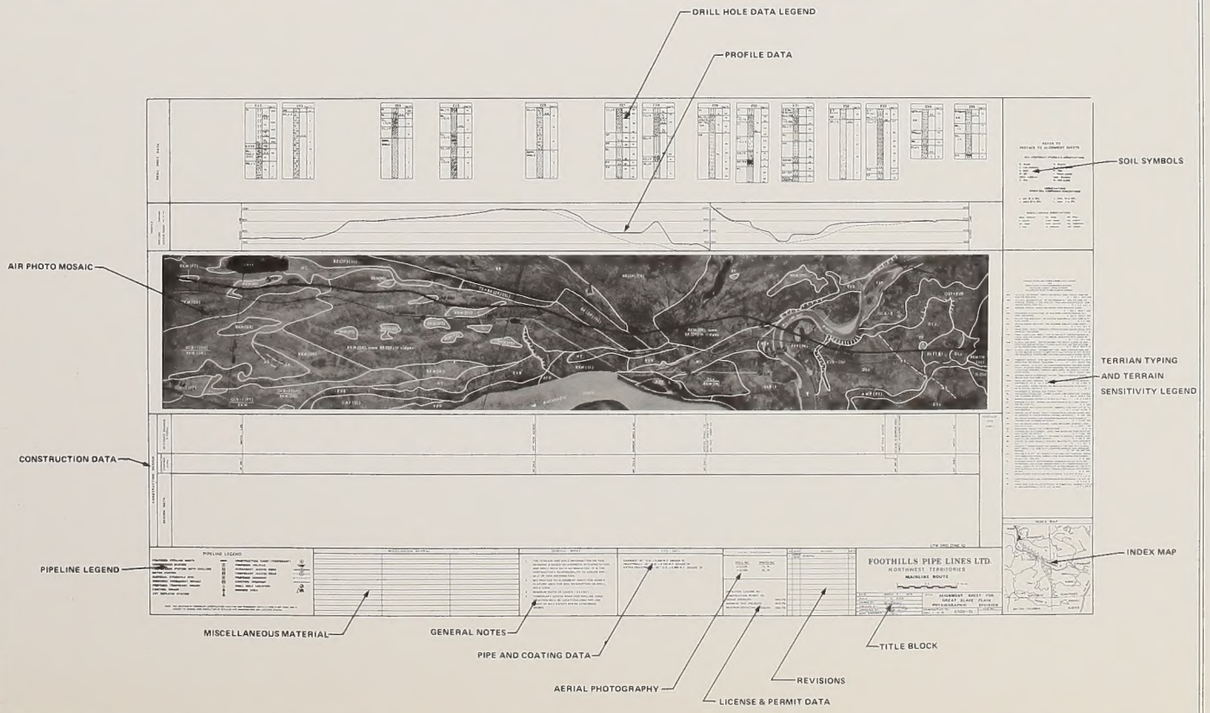
   REFERENCE DRAWING NUMBERS ARE SHOWN ON THE ALIGNMENT SHEETS RELATIVE TO RIVER CROSSINGS AND OFF RIGHT-OF-WAY FACILITY LOCATIONS.

5. MAPPING CO-ORDINATE SYSTEM

   THE UNIVERSAL TRANSVERSE MERCATOR GRID SYSTEM IS SHOWN ON ALL ALIGNMENT SHEETS. THE INDICATED GRID LINES REFER TO A TEN THOUSAND METER GRID OUTLINE.

6. PIPELINE LEGEND

   THE SYMBOLS INDICATED IN THE PIPELINE LEGEND SHOWN AT THE BOTTOM LEFT-HAND CORNER OF EACH ALIGNMENT SHEET ARE INDICATED ON THE PHOTOMOSAIC PORTION, WHERE APPLICABLE, FOR SIMPLIFIED ILLUSTRATION.



ACCURACY OF SCALE

THE AIR PHOTO MOSAIC SECTIONS OF THE ALIGNMENT SHEETS ARE UNCONTROLLED. THIS MEANS THAT CORRECTIONS HAVE NOT BEEN MADE FOR VARIATIONS IN FLYING ALTITUDE, AIRPLANE TILT, OR DISTORTION CAUSED BY MOUNTAINOUS TERRAIN. AS A RESULT, THE NOMINAL HORIZONTAL SCALE OF 1" = 2000' SHOWN ON THE ALIGNMENT SHEETS IS ONLY APPROXIMATE. THE CONSTRUCTION OF EACH ALIGNMENT SHEET WAS CONTROLLED BY USING TOPOGRAPHIC MAP GRID DURING IT'S PREPARATION AND IS CONSIDERED TO BE CORRECT WITHIN 5% OF THE INDICATED HORIZONTAL SCALE. IT SHOULD BE EMPHASIZED THAT THIS INACCURACY APPLIES ONLY TO THE AIR PHOTO MOSAIC SECTIONS OF THE ALIGNMENT SHEETS AND NOT TO THE PIPELINE MILEAGES, WHICH HAVE BEEN SCALED FROM GOVERNMENT 1:50,000 TOPOGRAPHIC MAPS AND TRANSFERED TO THE MOSAICS.

CONTROLLED MOSAICS

THE APPLICANT UNDERSTANDS THE ADVANTAGES AND DISADVANTAGES OF THE UNCONTROLLED MOSAICS INCORPORATED INTO THE ALIGNMENT SHEETS IN THIS VOLUME. THE MOSAIC, AS CONSTRUCTED, PROVIDES A MEANS OF DEFINING AREAS OF PIPELINE CONCERN. THE PREPARED MOSAIC ENABLES THE APPLICANT TO PERFORM THE ROUTE FEASIBILITY STUDY AND PRELIMINARY DESIGN APPLICATION. IN ADDITION, IT ALSO PROVIDES THE DEFINITION OF A CORRIDOR FOR THE APPLICANT'S NEXT PHASE OF MOSAIC CONSTRUCTION; THE CONTROLLED MOSAIC FOR DETAILED ROUTE AND DESIGN APPRECIATION.

PRINT REDUCTION AND SCALE

ALL ALIGNMENT SHEETS CONTAINED IN THIS VOLUME HAVE BEEN PHOTO-REDUCED FROM ORIGINALS WHICH WERE LARGER THAN THE PRINTS. THE NOMINAL SCALE ON THE ORIGINAL DRAWING IS 1" = 2000'. THE NOMINAL SCALE ON THE PRINTS IN THIS VOLUME IS 1" = 2530'.

ON EACH PRINT, A BAR SCALE APPEARS. THE BAR SCALE IS CORRECT AND MAY BE USED TO SCALE DISTANCES IN THE AIR PHOTO MOSAICS.

BORROW AREA

THOSE BORROW AREAS ILLUSTRATED WITH AN ACCOMPANYING NUMBER (ie. 135, FS1 ETC.) REFER TO THE CORRESPONDING BORROW AREA SHOWN ON THE DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT GRANULAR INVENTORY MAPPING.

THOSE BORROW AREAS DESIGNATED AS "PHOTO INTERPRETATION" WERE SELECTED BY STEREO STUDY.

ALIGNMENT SHEETS

MAINLINE ROUTE

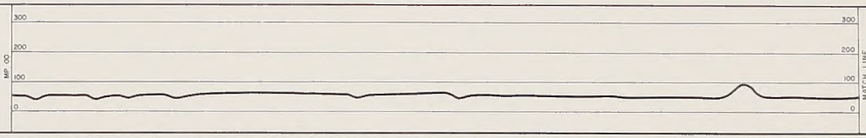
SUBSECTION H-1

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES
MELVILLE HILLS
GREAT BEAR LAKE
GREAT SLAVE LAKE
YELLOWKNIFE
RAE
PINE POINT
WOOD BUFFALO NATIONAL PARK
HAY RIVER
ENTERPRISE
HAY RIVER
FORT PROVIDENCE
ALBERTA
TERRITORIES
MACKENZIE DELTA
PHYSIOGRAPHIC DIVISION
-0200-
ANDERSON PLAIN
PHYSIOGRAPHIC DIVISION
-0300-
EAST SIDE MACKENZIE PLAIN
(INCLUDING FRANKLIN MOUNTAIN DIVISION)
PHYSIOGRAPHIC DIVISION
-0400-
GREAT SLAVE PLAIN
(INCLUDING LIARD PLATEAU DIVISION)
PHYSIOGRAPHIC DIVISION
-0500-
BEAUFORT SEA
TUKTOYAKTUK
PARSONS LAKE
TAGLU
INUVIK
FORT GOOD HOPE
NORMAN WELLS
FRANKLIN MOUNTAINS
FORT NORMAN
MACKENZIE RIVER
WRIGLEY
FORT SIMPSON
ALBERTA
BRITISH COLUMBIA
NORTHWEST
LIARD RIVER
NAHANNI NATIONAL PARK
MOUNTAINS
BRITISH COLUMBIA
FORT McPHERSON
PEEL RIVER
RICHARDSON MOUNTAINS
YUKON TERRITORY
CANADA
UNITED STATES OF AMERICA
ALASKA
WERNECKE MOUNTAINS
YUKON TERRITORY
MUNCHO LAKE PROV. PARK
STONE MOUNTAIN PROV. PARK
FOOTHILLS PIPE LINES LTD.
MASTER INDEX MAP
SUB - SECTION H-1

DRILL HOLE DATA

PROFILE
PIPELINE ——
ACCESS ROAD - - - -



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
S - Sand
M - Silt
cbl(s) - cobble(s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
s - some 20 to 25%
l - little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
c - course
cov - cover
f - fine
Gs - Grass
Lnat - lensed
lyrd - layered
m - medium
Ms - Moss
org - organic
veg - vegetation
vvd - varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
MACKENZIE DELTA PHYSIOGRAPHIC DIVISION
MACKENZIE DELTA TO NORMAN CREEK AREA

AFD ALLUVIAL FAN: DEPOSIT POORLY SORTED SILT, SAND, GRAVEL; SOME COBBLES AND BOULDERS
(S: 1, 3, 4; I: 3 & 5; 4)

AFP ACTIVE FLOOD PLAIN: SAND AND GRAVEL ON EXPOSED BARS IN HIGH ENERGY STEEP-GRADIENT STREAMS; AND SAND OR SILT IN BARS ON LOW ENERGY LOW GRADIENT STREAMS
(S: 1, 2, 4; I: 5)

AMP ALLUVIAL MEANDER PLAIN: ICE RICH STRATIFIED CLAY, SILT, AND FINE SAND OVER THICK DISCONTINUOUS LAYER OF SAND AND OR GRAVEL; OLDER TILL OR GLACIOLACUSTRINE SILT AND CLAY
(S: 2m2, 3; U: m3, 3 & 3; 3m5)

BR BEDROCK TERRAIN: BEDROCK OUTCROPS OF VARYING SIZES WITH THIN DISCONTINUOUS LESS THAN 5 FT. TILL AND SILTY COLLUVIUM OVER BEDROCK
(S: 1, 2, 4; I: 3 & 5; 4; U: 3 & 7; 2m6)

CAF COALESCING ALLUVIAL FANS: ICE RICH, POORLY SORTED ORGANIC AND ICE ORGANIC SILTY AND SANDY DEPOSITS CONTAINING SOME CLAY AND OCCASIONAL PEBBLES
(S: 2, 2m3, 3; I: 2m3 & 3; 3m5)

DL DELTAIC FINE SAND PLAIN: ICE RICH SILT TOPSTRATUM OVER STRATIFIED SILTY SAND AND SILT WITH SOME CLAY AND PEBBLES
(S: 2; I: 2m3, 4; U: 2m3)

E ESKERS: SAND OR GRAVEL IN SMALL NARROW & SHAPED RIDGES; MINOR SILT INCLUSIONS
(S: 1; I: 3; I: 5)

FFP FOSSIL FLOOD PLAIN: ICE RICH SILTY TOPSTRATUM OVER SAND AND OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OF CHANNELS OF THE MACKENZIE RIVER
(S: 2m3; 3; U: m3; 3 & 3; 3m5)

GLB 1 GLACIAL LAKE BASIN: BETTER DRAINED TYPE: ICE RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY OCCASIONALLY WITH A TRACE OF SAND AND PEBBLES
(S: 2m3; 3m4, 5; U: 3m3; 3m5)

GLB 2 GLACIAL LAKE BASIN: THERMOKARST TYPE: ICE RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND OR STRATIFIED SAND ERIN CLOSED THERMOKARST DEPRESSIONS
(S: 2m3; 3; U: 3m3, 4; 3 & 3; 3m5)

HM HUMMOCKS: ICE CORED HUMMOCKS AND SHORT RIDGES COMPOSED MIXTURE OF TILL WITH SOME SAND AND OR SILT PEAT OVERLIES SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS
(S: 2, 3; U: 2 & 3; 3m5)

HT HIGH TERRACES: SILT COVERED STRATIFIED FLUVIAL AND OR OUTWASH SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS
(S: 2; I: 2m3, 4; I: 2m3 & 2m5)

K KAMES: COMPLETELY STRATIFIED SAND AND OR GRAVEL; MINOR TILL AND BOULDERS
(S: 1; I: 2, 4; I: 5)

KT KAME TERRACE: POORLY EXPRESSED TERRACES COMPOSED OF SORT POORLY SORTED SAND AND OR GRAVEL WITH COBBLES; VARIABLE OFTEN WITH BOULDERS TILL AND ICE LENSES
(S: 1; I: 2m3 #1 2m5)

LB LACUSTRINE BASIN: POSTGLACIAL PONDED (LACUSTRINE) DEPOSITS: ICE RICH SILT AND CLAY WITH SOME SAND AND OR SILT PEAT OVERLIES SHALLOW PONDED PEAT COVERED; COMPOSED OF ORGANIC AND INORGANIC CLAY SILT, AND FINE SAND BEDS COMMONLY 3 TO 7 FT. THICK OVER TILL
(S: 2; I: 2m3, u3m3; 4)

MRD MACKENZIE RIVER DELTA: COMPLEXLY INTERMIXED ICE RICH SILT, CLAY, FINE SAND, AND PEAT; PARTLY ESTUARINE DELTAIC AND PARTLY RIVER FLOOD PLAIN IN ORIGIN; MANY LAKES AND CHANNELS
(S: 1; 3, u1; 3 & 1; 4)

OW OUTWASH PLAINS AND OUTWASH DELTAS: TABULAR BODIES OF SAND AND OR GRAVEL
(S: 1; 3, u1; 3 & 1; 3)

RM RIDGE AND KNOLL MORAINE: LARGELY ROLLING GROUND MORAINE WITH AND WITHOUT DRUMLINOID FORMS; LOW TO MEDIUM PLASTIC TILL WITH SHALLOW PEAT AND PONDED SEDIMENTS IN DEPRESSIONS
(S: 2m3, 3; u2m3, 3 & 2m3; 4)

SSSS ESCARPMENT: S: DEPENDS UPON TERRAIN TYPE

SP MUDFLOWS & FLOWCAST DETACHMENT SLIDES IN ICE RICH SILT AND CLAY
(S: 1; I: 2m3; U: 2m3 & 3; 4)

BD BEADED DRAINAGE PATTERN ICE RICH SILTY SOILS
(S: 2m3; 2m4, u3 & 4)

DR DRUMLINOID FORMS, INCLUDING FLUTING AND GLACIAL GROOVES WITH LINEAR RIDGES
(S: 2m3; 3; u2m3; 3)

EvS ERODING VALLEY SLIDES AND ESCARPMENT SLOPES: MIXED CLAY TO BOULDERS AND OR BEDROCK
(S: u2; 3m4)

IWP ICE WEDGE POLYGONS, USUALLY IN ICE RICH SILT
(S: 2m3; 4; u2m3; 4)

K KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS MORAINE AND THERMOKARST DEPRESSIONS
(S: 2; 3, u2; 3 & 2; 3m4)

MC MELTWATER CHANNEL: USUALLY WET AND WITH PEAT OVER SILT
(S: 3; 3, u2; 4)

OSF OLD SLIDE FEATURES: GENERALLY DEEPER AND LARGER FAILURES THAN MP; MAINLY ICE RICH SILT
(S: u2; 2m3 & 1; 3m4)

P PINGOS
(S: u2; 4)

T TERTIARY SAND AND GRAVEL IN EXPOSURES NEAR THE SURFACE (COMMONLY CAPPED BY TILL)
(S: 1; I: 4; U: 2 & 3)

BS BOGS SPLODGES WITH RIVERSIDE MEADOWS: UP TO 15 FT. OF PEAT IS PEAT PLAIN BUT GENERALLY 5 TO 10 FT. DEEP
(S: 3; I: 4, u1; 4)

SP STRING BOG OR PATTERNED FEN: GENERALLY 3 TO 10 FT. OF PEAT, GENERALLY LESS THAN 5 FT.
(S: 2; I: 4, u1; 4)

PT MIXED BOG AND FEN PEATS OR UNPATTERNED PEAT IN POST GLACIAL PONDED DEPRESSIONS; PEAT IS COMMONLY 2 TO 7 FT. DEEP BUT OCCASIONALLY MAY REACH 15 FT. LOCALLY
(S: 2; I, u1; 4)

SL SLOPE WASH DEPOSITS AND ASSOCIATED SHEET WASH DRAINAGE: TOPSTRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS WITH SOME GRAVEL SIZES AND THIN ORGANIC LAYERS; GENERALLY LESS THAN 5 FT. THICK BUT MAY REACH 10 FT. LOCALLY
(S: u3m3; 3m4)

RM MASS MODIFIED TILL: MAINLY A THIN SANDY TO GRAVELLY WASHED LAYER OVER LACUSTRINE DEPOSITS
(S: 2; 3m3, u2; 3m4)

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE (FT-IN)

DESIGN DATA

METER STATION

FOOTAGE THIS SHEET

UTM GRID ZONE 8

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	C
COMPRESSOR STATION	C	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING	CC	PERMANENT ACCESS ROAD	A
METER STATION	M	TEMPORARY ACCESS ROAD	A
MATERIAL STOCKPILE SITE	S	PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF	W	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER: 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL: 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL: 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A23477	23,24,25,26

OPERATING LICENSE NO.	
CONSTRUCTION PERMIT NO.	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

SHT	DATE	REVISION	APP'D
1	APR 9 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" = 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR *MACKENZIE DELTA* PHYSIOGRAPHIC DIVISION

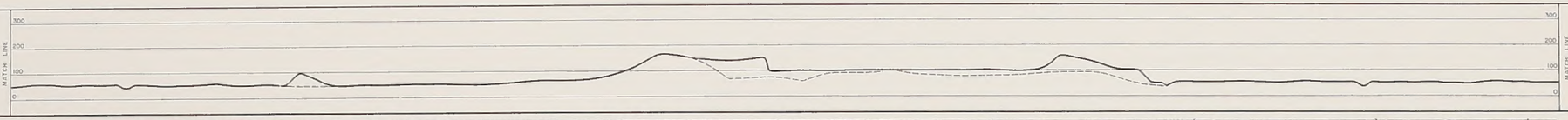
DRAWING-PLAN NO. 0200-01 FILE NO.

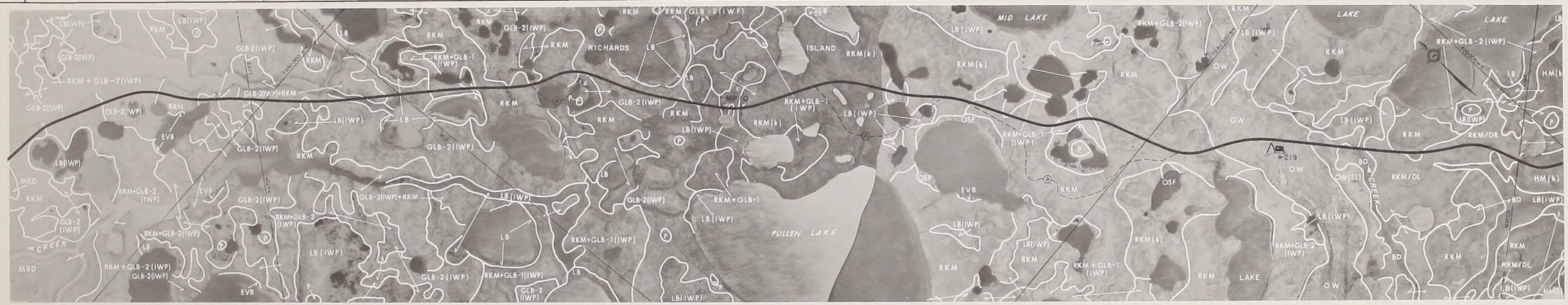
SHEET 1 OF 7

INDEX MAP

DRILL HOLE DATA

PROFILE — PIPELINE ——— ACCESS ROAD - - - -





REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G : Gravel — O : Organic
L : Low plasticity — H : High plasticity
S : Sand — Pt : Peat
M : Silt — P : Poorly graded
cbl(s) : cobble(s) — bldrs : Boulders
C : Clay — W : Well graded

ABBREVIATIONS

MINOR SOIL COMPONENT PERCENTAGES

s : sand 35 to 50% — t : little 10 to 20%
g : some 20 to 35% — l : trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk : bedrock — Gs : Grass — Ms : Moss
c : course — L.rod : limited — org : organic
cvr : cover — lyrd : layered — veg : vegetation
f : fine — m : medium — vrd : varied

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND FOR MACKENZIE DELTA PHYSIOGRAPHIC DIVISION MACKENZIE DELTA TO NORRIS CREEK AREA

AFD ALLUVIAL FAN: DENSELY POORLY SORTED SILT, SAND, GRAVEL, SOME COBBLES AND BOULDERS (S : 1 ; U : 3 & 5 ; R)

AFF ACTIVE FLOOD PLAIN: SAND AND GRAVEL ON EXPOSED BARS IN HIGH ENERGY STEEP GRADIENT STREAMS; AND SAND OR SILT IN BARS ON LOW ENERGY LOW GRADIENT STREAMS (S : 1 ; U : 1)

AMP ALLUVIAL MEANDER PLAIN: ICE RICH STRATIFIED CLAY, SILT, AND FINE SAND OVER THIN, DISCONTINUOUS LAYER OF SAND AND/OR GRAVEL OVER TILL OR GLACIOLACUSTRINE SILT AND CLAY (S : 2w2 ; S : 2w3 ; 3 & 2 ; 3w4)

BR BEDROCK TERRAIN: BEDROCK OUTCROPS OF VARYING SIZES WITH THIN (GENERALLY LESS THAN 5 FT.) TILL AND SILTY COLLUVIUM OVER BEDROCK (S : 1 ; U : 1 & 2 ; R)

CAF COALESCING ALLUVIAL FAN: ICE RICH, POORLY SORTED ORGANIC AND ORGANIC SILTY AND SANDY DEPOSITS CONTAINING SOME CLAY AND OCCASIONAL PEBBLES (S : 2w4 ; U : 2w3 & 3 ; 5w4)

DL DELTAIC FINE SAND PLAIN: ICE RICH SILT TOPSTRATUM OVER STRATIFIED SILTY SAND AND SILT WITH SOME CLAY AND PEBBLES (S : 2 ; 2w4 ; U : 2w3)

E ESKERS: SAND OR GRAVEL IN SMALL NARROW & SHAPED RIDGES, MINOR SILT INCLUSIONS (S : 1 ; 3 & 4 ; R)

FFP FOSSIL FLOOD PLAIN: ICE RICH SILTY TOPSTRATUM OVER SAND AND/OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OF CHANNELS OF THE MACKENZIE RIVER (S : 2w2 ; S : 2w3 ; 3 & 2 ; 3w4)

GLB-1 GLACIAL LAKE BASIN: BETTER DRAINING TYPE: ICE RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY OCCASIONALLY WITH A TRACE OF SAND AND PEBBLES (S : 2w2 ; 3w4 ; U : 2w3 ; 3w4)

GLB-2 GLACIAL LAKE BASIN: THE POORLY DRAINED TYPE: ICE RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY OCCASIONALLY WITH PEAT AND/OR STRATIFIED SAND AND GRAVEL; THE POORLY DRAINED DEPRESSIONS (S : 2w2 ; 3 & 4 ; U : 2w3 ; 3 & 4)

HM HUMMOCKY MORAINE: LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND/OR SILT; PEAT OVERLIES SMALLER PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS (S : 2 ; 3 & 2 ; 3 & 2 ; 3w4)

HT HIGH TERRACE: SILT COVERED STRATIFIED FLUVIAL AND/OR OUTWASH SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS (S : 2 ; 2w3 ; U : 2w3 & 3w3 ; 3w3)

K KAMES: COMPLEXLY STRATIFIED SAND AND/OR GRAVEL; MINOR TILL AND ROLLOERS (S : 1 ; 3 ; U : 1)

KT KAME TERRACE: POORLY EXPRESSED TERRACES COMPOSED OF DIRTY, POORLY SORTED SAND AND/OR GRAVEL WITH COBBLES; VARIABLE OFTEN WITH BOULDER TILL AND ICE LENSES (S : 1 ; U : 2w3 ; 3w3)

LB LACUSTRINE BASINS: POTS LOCAL PONDED LIQUOTRINE DEPOSITS (S : 2 ; U : 2w3 & 3w3 ; 3w3)

MRD MUSKEG RIVER DELTA: COMPLEXLY INTERBEDDED ICE RICH SILT, CLAY, FINE SAND, AND PEAT, PARTLY ESTUARINE DELTAIC AND PARTLY RIVER FLOOD PLAIN IN ORIGIN; MANY LAKES AND CHANNELS (S : 1 ; 3 ; U : 3 & 3 ; 4)

MRD MACKENZIE RIVER DELTA: COMPLEXLY INTERBEDDED ICE RICH SILT, CLAY, FINE SAND, AND PEAT, PARTLY ESTUARINE DELTAIC AND PARTLY RIVER FLOOD PLAIN IN ORIGIN; MANY LAKES AND CHANNELS (S : 1 ; 3 ; U : 3 & 3 ; 4)

OW OUTWASH PLAINS AND OUTWASH DELTAS: TABULAR BODIES OF SAND AND/OR GRAVEL (S : 1 ; 3 ; U : 2 & 3 ; 3)

RKM RIDGE AND KNOLL MORAINE: LARGELY ROLLING GROUND MORAINE WITH AND WITHOUT DRUMLINOID FORMS; LOW TO MEDIUM PLASTIC TILL WITH SHALLOW PEAT AND PONDED SEDIMENTS IN DEPRESSIONS (S : 2w3 ; 3 ; U : 2w3 ; 2 & 3w3 ; 4)

FRONT ESCARPMENT: S DEPENDS UPON TERRAIN TYPE

MP MUSKEGS: BLOCKED DRAINAGE SUBS IN ICE RICH SILT AND CLAY (S : 1 ; 2w3 ; U : 3w3 & 3 ; 4)

BD BEADED DRAINAGE PATTERN: ICE RICH SILTY SOILS (S : 2w2 ; 3w4 ; U : 4 & 4)

DR DRUMLINOID FORMS, INCLUDING FLUTING AND GLACIAL GROOVES WITH LINEAR RIDGES (S : 2w2 ; 3 & 3w3 ; R)

EVB ENDDING VALLEY SIDES AND ESCARPMENT SLOPES: MIXED CLAY TO BOULDERS AND/OR BEDROCK (S : 2 ; U : 3w4)

IWP ICE WEDGE POLYGONS, USUALLY IN ICE RICH SILT (S : 2w3 & 4 ; U : 4)

K KETTLES IN GRAVEL GLACIOFLUVIAL DEPOSITS MORAINE AND THERMO KARST DEPRESSIONS (S : 2 ; 3 ; U : 3 & 2 ; 3w4)

MC MELTWATER CHANNEL: USUALLY WET AND WITH PEAT OVER SILT (S : 3 ; 4 ; U : 4)

OLP OLD SLUG FEATURES: GENERALLY DEEPER AND LARGER FAULTS THAN W/ MAINLY ICE RICH SILT (S : 2 ; U : 2w3 & 3 ; 3w4)

P PINGOS (S : 2 ; U : 4)

T TERTIARY SAND AND GRAVEL: IN EXPOSURES NEAR THE SURFACE (GENERALLY WITHIN 15FT.) (S : 1 ; 2 ; U : 2 & 3)

RS RIDGE SPECKLED WITH MUSKEG MEADOWS: UP TO 15 FT. OF PEAT IN PEAT PLATEAUS BUT GENERALLY 5 TO 10FT. DEEP (S : 2 ; 4 ; U : 4)

SR STRING RIDGE, OR PATTERNED FEN: GENERALLY 3 TO 10 FT. OF PEAT, GENERALLY LESS THAN 5 FT. (S : 3 ; 4 ; U : 4)

PT MIXED BOG AND FEN PEATS OR UNPATTERNED PEAT IN POST GLACIAL PONDED DEPRESSIONS: PEAT IS COMMONLY 2 TO 7 FT. DEEP BUT OCCASIONALLY MAY REACH 15 FT. LOCALLY (S : 3 ; 4 ; U : 4)

SL SLOPE WASH DEPOSITS AND ASSOCIATED SHEET WASH DRAINAGE: TOPSTRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS WITH SOME GRAVEL SIZED AND THIN ORGANIC LAYERS; GENERALLY LESS THAN 5 FT. THICK BUT MAY REACH 10 FT. LOCALLY (S : 2w2 ; 3w4)

RM WAVE MODIFIED TILL: MAINLY A THIN SANDY TO GRAVELLY WASHED LAYER OVER LACUSTRINE DEPOSITS (S : 2 ; 3w3 ; U : 3w4)

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE (KM)

MATCH LINE	MP 0.5
OFF ROW ACCESS	MP 8.1
OFF ROW ACCESS	MP 8.7
OFF ROW ACCESS	MP 10.7
OFF ROW ACCESS	MP 11.9
OFF ROW ACCESS	MP 12.0
OFF ROW ACCESS	MP 14.0
BORROW AREA #219	MP 15.0
MATCH LINE	MP 17.2

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 8

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 23476	200,201,202 224,225,226

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO.	DATE	REVISION	APP'D
1	APR 1 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 — 0.5 — 1.0 Miles

DATE: MARCH 3, 1975
SCALE: 1" = 2000'
DRAWN BY:
CHECKED BY:
APPROVED BY:
SUPV. ENGINEER:

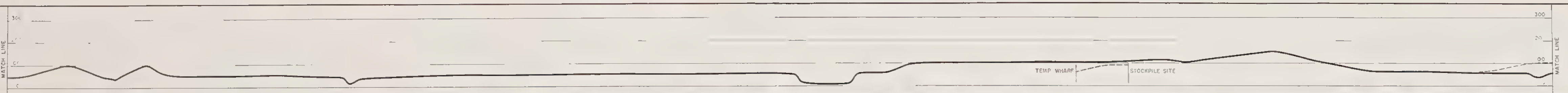
TITLE: ALIGNMENT SHEET FOR MACKENZIE DELTA PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0200-02
SHEET 2 OF 7
FILE No.

INDEX MAP

DRILL HOLE DATA

PROFILE — PIPE LINE / ACCESS ROAD



CONSTRUCTION DESIGN — REFERENCE DRAWING & NOTES — DESIGN DATA

FOOTAGE THIS SHEET

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S - Sand	Pt - Peat
M - Silt	P Poorly graded
cb(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

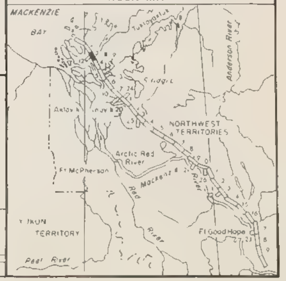
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Ms Moss
c course	Lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vrd varved

INDEX MAP



UTM GRID ZONE 8

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	Ⓒ
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	
METER STATION		TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF	Ⓦ	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF	▲	BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.

2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.

3 MINIMUM DEPTH OF COVER = 2.5 FEET

4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPH

ROLL NO.	PHOTO NO.
A 23476	125, 126, 127, 128 158, 159, 160

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	250 PSI

No.	DATE	REVISION	APP'D
	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 — 0.5 — 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1:12,000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
CHIEF ENGINEER	

TITLE ALIGNMENT SHEET FOR *MACKENZIE DELTA* PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0200-03

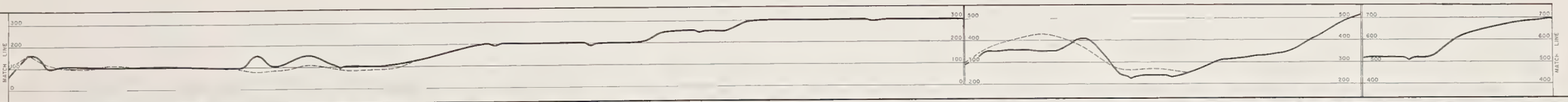
FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD - - - -



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Low plasticity
S Sand
M Silt
cbbl(s) cobble(s)
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
bldr(s) Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
Gs Grass
Mos Moss
f fissure
Lmd limed
org organic
cvr cover
lyrd layered
veg vegetation
fr fine
m medium
vrd varved

TERRAIN TYPES AND TERRAIN SENSITIVITY LEGEND

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	OFF ROW ACCESS	OFF ROW ACCESS	OFF ROW ACCESS	BORROW AREA #319	OFF ROW ACCESS	OFF ROW ACCESS	MATCH LINE	FOLLOWS THIS SHEET
CHAINAGE (km)	MP 29.6	MP 30.9	MP 31.9	MP 33.3	MP 38.0	MP 39.0	MP 40.9	MP 41.1	

DESIGN DATA

UTM GRID ZONE 8

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A 23473	12, 13, 14
A 23476	100, 101, 102

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

APP	DATE	REVISION	APP'D
1	APR 1 1975	GENERAL	L

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

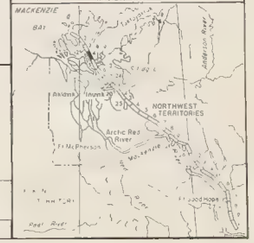
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR MACKENZIE DELTA PHYSIOGRAPHIC DIVISION

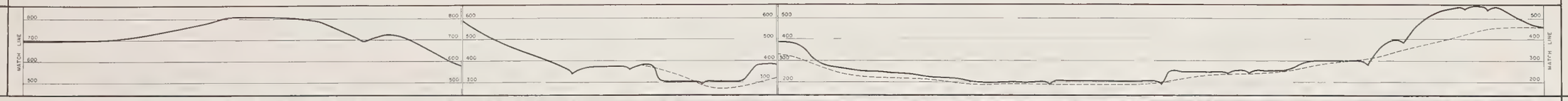
DRAWING/PLAN No. 0200-04
SHEET 4 OF 7
FILE No.

INDEX MAP



DRILL HOLE DATA

PROFILE — PIPELINE ——— ACCESS ROAD - - - -



REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
cbl(s) - cobble(s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldr(s) - Boulder(s)
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
s - some 20 to 35%
l - little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

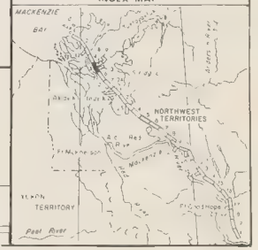
Bdrk - bedrock
c - coarse
pr - prior
f - fine
Gs - Grab
Lmd - limed
fpd - fippered
m - medium
Mt - Moist
p - [illegible]
sng - [illegible]
vf - very fine

TERRAIN FLYING AND TERRAIN SENSITIVITY LEGEND

MACKENZIE DELTA PHOTOGRAPH CO. VISION
MACKENZIE DELTA TO NORTHWESTGATE AREA

[illegible]

INDEX MAP



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	ACCESS ROAD TO BORROW AREA #33 DWG. 0200-13	C 01	OFF ROW ACCESS	OFF ROW ACCESS	PERSONS LAKE LATERAL SEE DWG. 0200-08	OFF ROW ACCESS	MATCH LINE
CONSTRUCTION CHAINAGE	MP 45.1	MP 45.1	MP 46.0	MP 49.1	MP 50.5	MP 51.2	MP 51.7	MP 57.0

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 8

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOG STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER 42" O.D. x 0.560 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.866 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 23476	19, 20
A 23475	33, 34, 35, 52, 53, 54

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 250 PSI

No.	DATE	REVISION	APP'D
	1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 — 0.5 — 1.0 Miles

DATE	MARCH 3, 1975
SCALE	TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

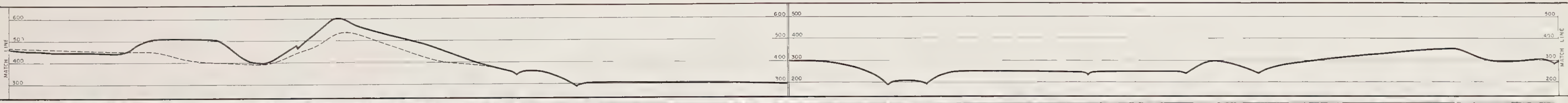
TITLE: ALIGNMENT SHEET FOR MACKENZIE DELTA
PHYSIOGRAPHIC DIVISION

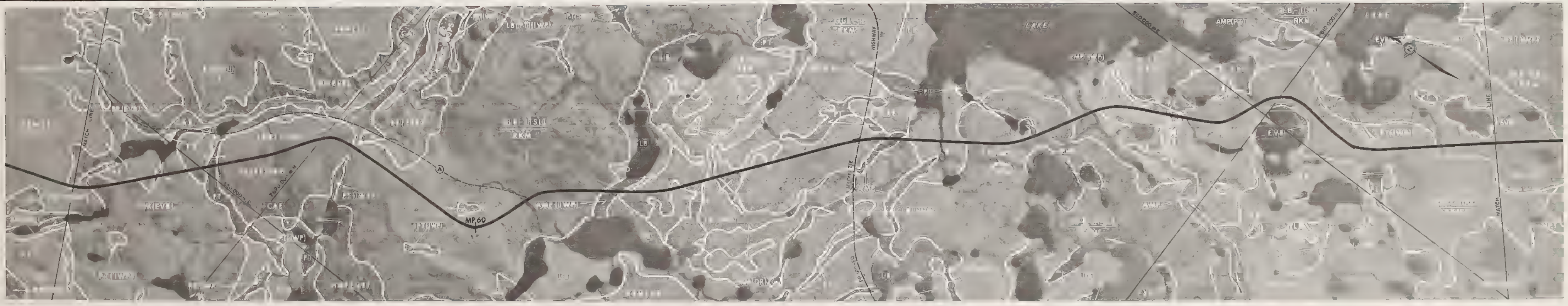
DRAWING/PLAN No. 0200-05
SHEET 5 OF 7
TILE No.

DRILL HOLE DATA

PROFILE

PIPELINE — ACCESS ROAD ---





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE (miles)

DESIGN DATA

FOOTAGE THIS SHEET

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

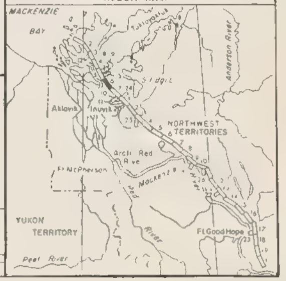
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Ms Moss
c - coarse	Lnsd - lensed	org - organic
cvr - cover	lyrd layered	veg vegetation
f fine	m medium	vrd - varved

INDEX MAP



UTM GRID ZONE 8

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	
METER STATION		TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF		EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER - 42" O.D. x 0.640 W.T. GRADE 70
HEAVYWALL 42 O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 23476	19,20,21 34,35,36

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

Nº	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

0 — 0.5 — 1.0 Miles

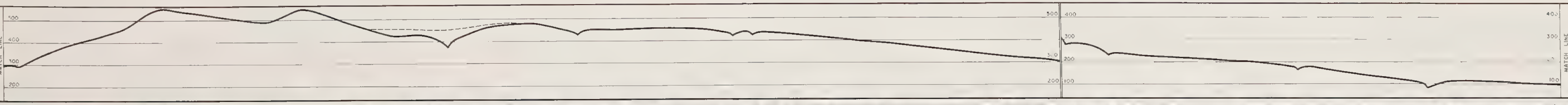
DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
S. P. ENGINEER	

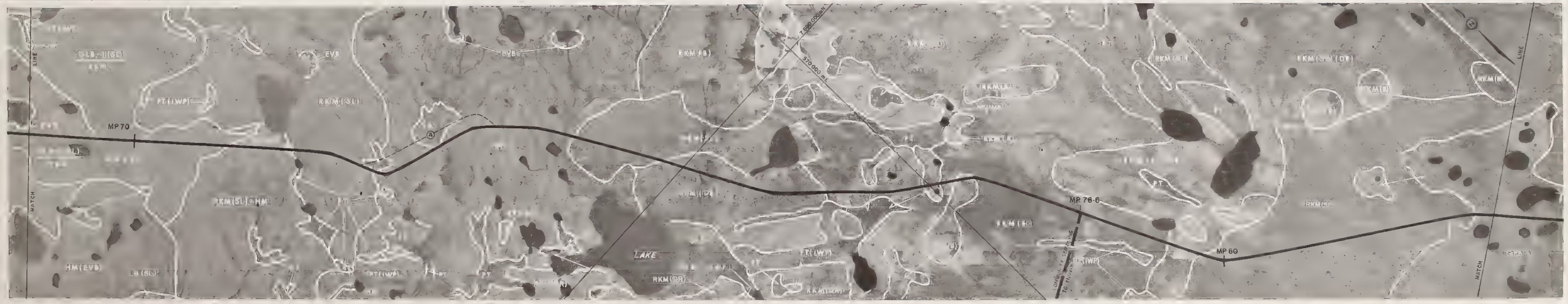
TITLE ALIGNMENT SHEET FOR MACKENZIE DELTA PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0200-06
SHEET 6 OF 7
FILE No.

DRILL HOLE DATA

PROFILE





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	OFF ROW ACCESS	OFF ROW ACCESS	COMMUNITY SERVICING TO INUVIK SEE DRWGS 0200-10 B 11	MATCH LINE	FOOTAGE THIS SHEET
CONSTRUCTION CHAINAGE (Miles)	MP 69.2	MP 72.1	MP 73.0	MP 78.6	MP 82.4	

DESIGN DATA

UTM GRID ZONE 8

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L - Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbls cobbles	bldrs Boulders
C Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

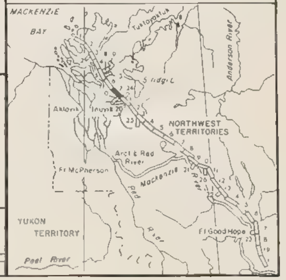
a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss
c course	Lmd lensed	org organic
cvr cover	lyrd - layered	veg vegetation
f fine	m medium	vvd varved

TERRAIN TYPES AND TERRAIN SENSITIVITY LEGEND FOR MACKENZIE DELTA PHYSIOGRAPHIC DIVISION

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	
METER STATION		TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF		EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 23476	77, 78, 79
A 2.5	20, 21 [illegible]

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

Nº	DATE	REVISION	APP'D
	APR 3	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
J.P. ENGINEER	

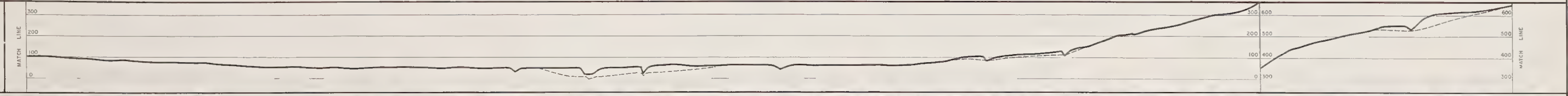
TITLE ALIGNMENT SHEET FOR *MACKENZIE DELTA* PHYSIOGRAPHIC DIVISION

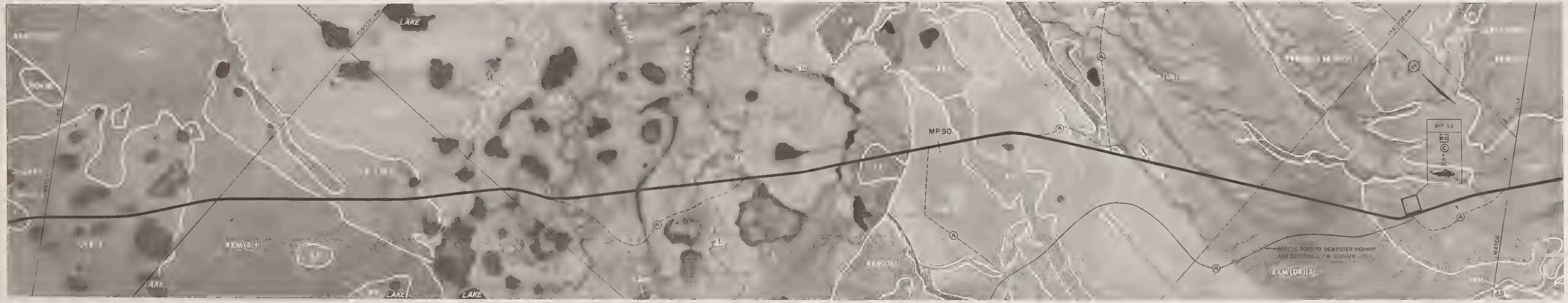
DRAWING/PLAN No. 0200-07 SHEET 7 OF 7

FILE No.

DRILL HOLE DATA

PROFILE — PIPELINE ——— ACCESS ROAD - - -





REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cb(s) cobble(s)	bld s Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms - Moss
c - coarse	Lnsd - lensed	org organic
cvr cover	lyrd - layered	veg - vegetation
f - fine	m - medium	vvd - varved

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	CONSTRUCTION CHAINAGE (MP)
MATCH LINE	MP 87.4
OFF ROW ACCESS	MP 88.6
OFF ROW ACCESS	MP 88.3
ACCESS ROAD	MP 89.9
OFF ROW ACCESS	MP 90.9
ACCESS ROAD TO BORROW AREA # 452 SEE DWG 0300-24	MP 91.6
ACCESS ROAD SEE DWG # 0300-20 C-02	MP 00 / MP 94
OFF ROW ACCESS / MATCH LINE	MP 94.6 / MP 94.7

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 8

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE. THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO.
A 21511	195,196,197 214 215 216

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

No	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

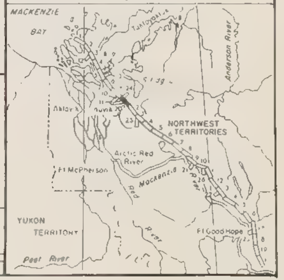
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

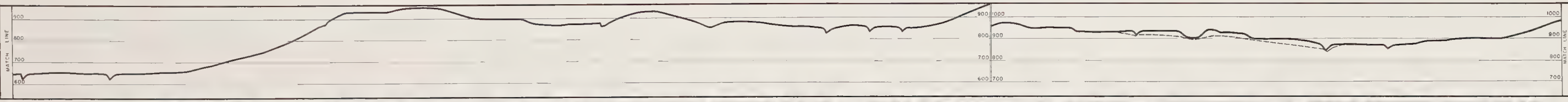
DRAWING/PLAN No. 0300-01 SHEET 1 OF 19 FILE No.

INDEX MAP



DRILL HOLE DATA

PROFILE



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

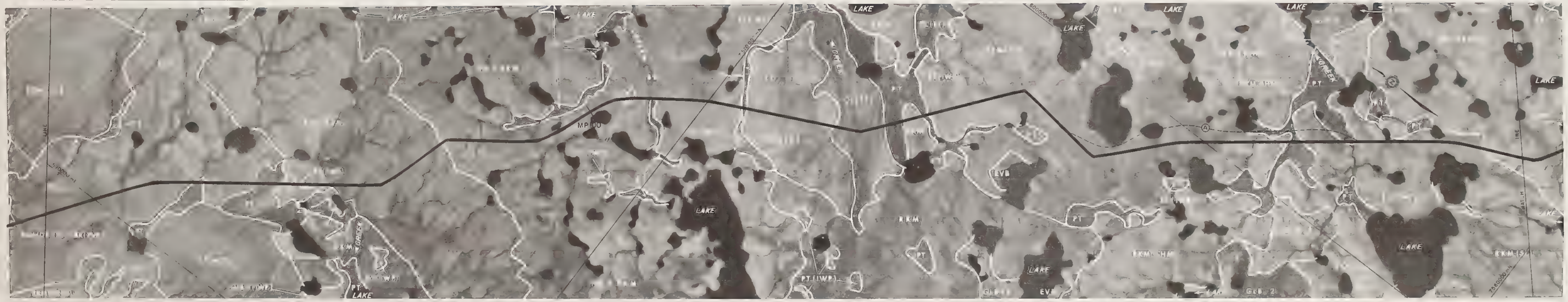
G - Gravel	O - Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P - Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%	l. - little 10 to 20%
s. - some 20 to 35%	t. - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G - Grass	Ms Moss
c - course	Lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vvd varved



TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES: MATCH LINE; OFF ROW ACCESS; OFF ROW ACCESS; MATCH LINE

CONSTRUCTION CHAINAGE (MILES): MP 94.7; MP 104.5; MP 107; MP 108.5

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 8

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	▬	CONSTRUCTION CAMP (TEMPORARY)	Ⓒ
COMPRESSOR STATION	Ⓒ	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	—Ⓐ—
METER STATION	M	TEMPORARY ACCESS ROAD	--Ⓐ--
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	-------
PROPOSED PERMANENT WHARF	Ⓦ	EXISTING HIGHWAY	——
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF	▲	BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A21511	214, 215, 216
A21519	36, 37, 38
A21583	233, 234

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO.	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

Nº	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES
MAINLINE ROUTE

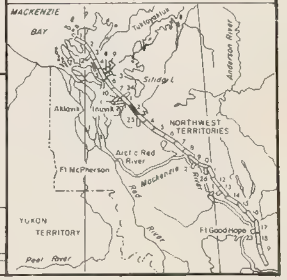
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY:	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No 0300-02 SHEET 2 OF 9 FILE No.

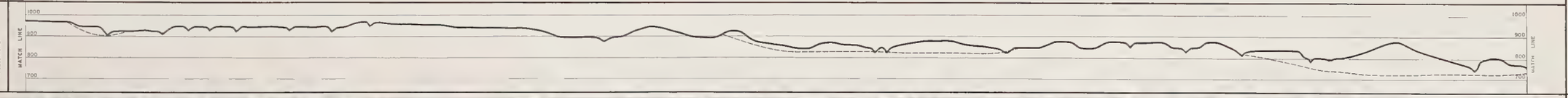
INDEX MAP

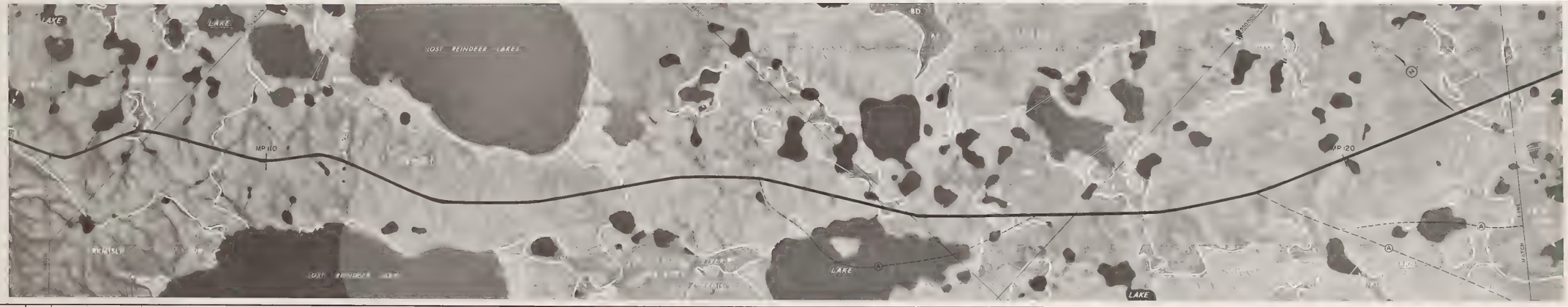


DRILL HOLE DATA

PROFILE

PIPELINE ——— ACCESS ROAD — — —





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	OFF ROW ACCESS	OFF ROW ACCESS
CONSTRUCTION CHAINAGE (Approx.)	MP 108.5	MP 108.7	MP 109.2

OFF ROW ACCESS	OFF ROW ACCESS	ACCESS ROAD TO BORROW AREA ALONG PIPELINE	OFF ROW ACCESS	MATCH LINE	FOOTAGE THIS SHEET
MP 114.5	MP 117.1	MP 119.2		MP 121.6	

DESIGN DATA

UTM GRID ZONE 8

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P - Poorly graded
cb(s) cobble(s) — bld(s) Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50% — i - little 10 to 20%
s - some 20 to 35% — t - trace 1 to 10%

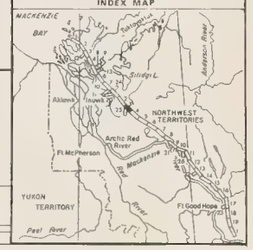
MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — G - Grass — Mo Moss
c - coarse — Lnsd - lensed — org - organic
cov - cover — lyrd layered — veg - vegetation
f - fine — m medium — vrd varved

TERRAIN TYPING AND TERRAIN [illegible]

AFD ALLUVIAL FAN DEPOSITS POORLY SORTED SILT SAND GRAVEL SOME COB [illegible]
AFF ACTIVE FLOOD PLAIN SAND AND GRAVEL ON EXPOSED BARS IN HIGHLY ERODY STEEP GRADIENT STREAMS AND SAND OR SILT IN BARS ON LOWER [illegible]
AMP ALLUVIAL MEANDER PLAIN ICE RICH STRATIFIED CLAY SILT AND FINE SAND OVER FAIRLY DISCONTINUOUS LAYER OF SAND AND OR GRAVEL OVER [illegible]
BR BEDROCK OUTCROPS BETWEEN THE PEEL RIVER AND THE [illegible]
CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED DRAINAGE AND [illegible]
[illegible] DELTA COARSE SAND PLAIN STRATIFIED LEAN TO SILTY SAND AND OR GRAVELLY SAND [illegible]
FFP FOSSIL FLOOD PLAIN ICE RICH OVERLAIN BY SOMETIMES OVER SAND AND OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OF RELATIVELY HIGH ENERGY [illegible]
[illegible] BASIN BETWEEN DRAINED TYPE [illegible]
[illegible] LAKES [illegible]
FLB ? GLACIAL LAKE BASIN THERMOKARST TYPE ICE RICH MEDIUM TO HIGHLY [illegible]
HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVER LESS HALLOW POCKETS SILTY CLAY SEDIMENTS IN CLOSED DEPRESSIONS (APPROXIMATE) [illegible]
HT HIGH TERRACES SILT COVERED STRATIFIED FOSSIL [illegible]
K KAMES COMPLETELY STRATIFIED SAND AND OR GRAVEL MINOR TILL AND BOULDERS [illegible]
LB LACUSTRINE BASINS POSTGLACIAL PONDED LIMNOTERRIC DEPOSITS IN LARGE FLAT BOTTOMED DEPRESSIONS AND THERMOKARST DEPRESSIONS PEAT [illegible]
[illegible] THERMOKARST DEPRESSIONS 2 TO 7 FT TO OVER TILL [illegible]
[illegible] AND WITHOUT DRUMLINOID FORMS LOW TO MEDIUM RELIEF TILL WITH [illegible]
LD SAND DUNES ELONGATE FINE TO MEDIUM SAND RIDGES [illegible]
[illegible] ESCARPMENT [illegible] DEPENDS UPON TERRAIN TYPE
AB ABANDONED STRANDLINES [illegible]
ALF ALFDES (FLOOD ICHO) OCCURRENCES ON THE ACTIVE FLOODPLAIN
BS BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOIL [illegible]
[illegible] DRAINAGE FORMS INCLUDE INFILLING AND GLACIAL CROSSOVERS WITH LINEAR RIDGES [illegible]
[illegible] ERODING VALLEY SIDES AND ESCARPMENT SLOPES WHERE CLAY TO BOULDERS AND OR BEDROCK [illegible]
[illegible] ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT [illegible]
K. KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS AND THERMOKARST DEPRESSIONS [illegible]
MC MELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER [illegible]
MF MUDFLOWS AND ELONGATE DETACHMENT SLIDES IN ICE RICH SILT AND CLAY [illegible]
OSF OLD SLIDE FEATURES GENERALLY DEEPER AND LARGER [illegible]
RT RAMPART IN ICE RICH SILT [illegible]
TF THIN (3 FT) AND PATCHY DRIFT OVER AN UNEVEN BEDROCK SURFACE [illegible]
BG [illegible]
[illegible] [illegible]
[illegible] GENERALLY LESS THAN 6 FT [illegible]
PT MIXED BOG AND FEN PEATS OR UNPATTERNED PEAT IN POTE GLACIAL PONDED DEPRESSIONS PEAT IS COMMONLY 3 TO 7 FT DEEP BUT OCCASIONALLY MAY REACH 15 FT LOCALLY [illegible]
SL SLOPE WASH DEPOSITS AND ASSOCIATED SHEET WASH DRAINAGE TOP STRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS WITH SOME GRAVEL SIZES AND THIN ORGANIC LAYERS GENERALLY [illegible]
[illegible] TO 30 FT MAY REACH 60 FT LOCALLY [illegible]
WM WAVE MODIFIED TILL MAINLY A THIN SANDY TO GRAVELLY WASHED LAYER OVER TILL [illegible]

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.560 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
4,1593	14, 35 206, 207, 208 90, 91, 92

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1.50 P
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

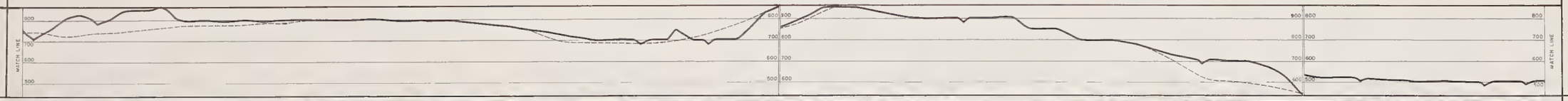
TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

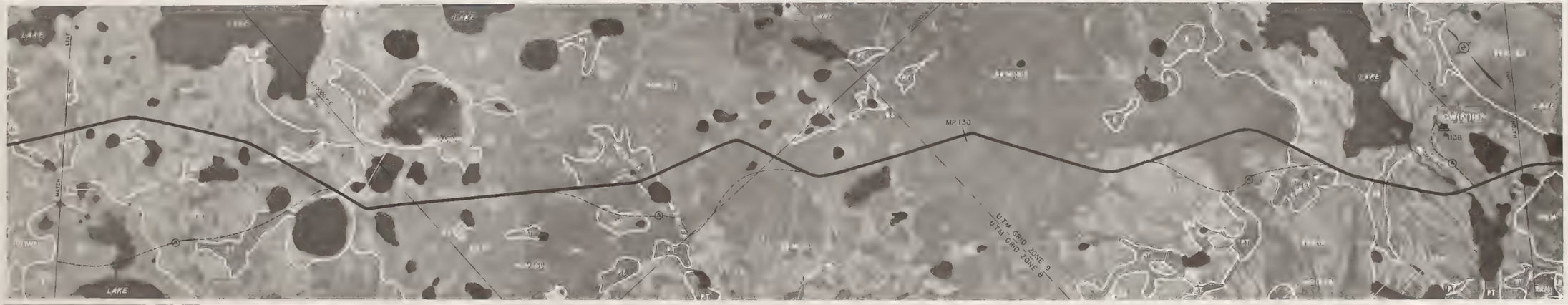
DRAWING/PLAN NO 0300-03 — SHEET 3 OF 19 — FILE No

DRILL HOLE DATA

PROFILE

PIPELINE ——— ACCESS ROAD ———





REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L - Low plasticity
S - Sand
M Silt
cobble - cobble(s)
C - Clay

O Organic
H - High plasticity
Pt Peat
P - Poorly graded
Bldrs Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
b some 20 to 35%

i - little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
c - coarse
cov - cover
f - fine

G Grass
Lmd limed
fyrd fertrid
m - medium

Ms - Moss
org organic
veg vegetation
vrd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY

ANDERSON PLAIN PHYSIOGRAPHIC DIVISION
NORTH SPEECH AREA TO GASBUFF PASS

ATO ALLUVIAL FAN DEPOSIT POORLY SORTED SILT, SAND GRAVEL SOME COBBLES AND BOULDERS (1 2 3 4) (3 2 3 4)

ASP ACTIVE FLOOD PLAIN SAND AND GRAVEL ON EXPOSED BARS IN HIGH ENERGY STEEP GRADIENT STREAMS AND SAND OR SILT IN BARS ON LOW ENERGY LOW GRADIENT STREAMS

ASUP ALLUVIAL MEANDER PLAIN FINE GRAIN STRATIFIED CLAY SILT AND VARVED CLAY OVERLAIN BY THICKNESS LAYER OF SAND AND OR GRAVEL OVERLAIN BY OR GLACIOLACUSTRINE SILT AND CLAY (1 2 3 3 3 4) (3 2 3 3 4)

BR BEDROCK TERRAIN BEDROCK OUTCROPS OR VARYING SIZE WITH THIN (GENERALLY LESS THAN 5 FT) TILL AND SILTY COLLUVIUM OVER BEDROCK ON STEEPLY SLOPING BEDROCK ESCARPMENTS NORTH OF NORMAN WELLS AND OCCASIONAL BEDROCK RIDGES BETWEEN THE PEEL RIVER AND THE YUKON TERRITORY BORDER (1 4 2 3 3 4) (3 2 3 3 4)

CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC AND INORGANIC SILTY AND SANDY DEPOSITS CONTAIN NO SOME CLAY AND OCCASIONAL PEBBLES FREQUENTLY WET

DL DISTRACTIVE SAND PLAIN ICE RICH BUT TOPSTRATUM OVER STRATIFIED SILTY SAND AND SILTY WITH SOME CLAY AND PEBBLES (1 2 3 4) (3 2 3 4)

C

FFP FOSSIL FLOOD PLAIN ICE RICH SILTY TOPSTRATUM OVER SAND AND OR CLAY

PLASTIC GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND OR STAGNANT WATER IN CLOSED EVENTUALLY DRAINED DEPRESSIONS

HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME VARIABLE THICKNESS PEAT OVER AND SHALLOW POND SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS

(1 2 3 3 3 4) (3 2 3 3 4)

(2 3 4) GENERALLY STRATIFIED SAND AND OR GRAVEL MORAINE (1 2 3 4) (3 2 3 3 4)

ET ESCARPMENT PORTIONS EXPOSED TERRACES COMPOSED OF 0 FT POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS TILL AND ICE LENSES (1 2 3 3)

LB LACUSTRINE BASINS POTOGLACIAL PONDED LACUSTRINE DEPOSITS IN LARGER FLAT BOTTOMED KETTLEHOLES AND THE MARGINAL DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND ICE COMMONLY 2 TO 7 FT THICK OVER TILL (1 3 4 2) (3 2 3 3 4)

OFW OUTWASH PLAINS AND OUTWASH DELTAS FABULAR BODIES OF SAND AND GRAVEL (1 2 3 3) (3 2 3 3)

RDM RIDGE AND KNOLL MORAINE LARGELY ROLLING GROUND MORAINE WITH AND WITHOUT DRUMLINOID FORMS LOW TO MEDIUM PLASTIC TILL WITH ON PEAT AND PONDED SEDIMENTS IN DEPRESSIONS

SD SAND DUNES ELONGATE FIXED TO MEDIUM SAND RIDGES (1 2 3)

AS ESCARPMENT AREAS DEPENDS UPON TERRAIN TYPE

ABANDONED STRANDLINES (1 2 3 4) (3 2 3 4)

AUP ALFEID (1000 LONG) OCCURRENCES ON THE ACTIVE FLOODPLAIN (1 2 3)

RD RELATED DRAINAGE PATTERN IN ICE RICH SILTY SOILS (1 2 3 4) (3 2 3 4)

DR DRUMLINOID FORMS INCLUDING FLUTINGS AND GLACIAL GROOVES WITH LINEAR RIDGES (1 2 3 4) (3 2 3 4)

EYB ENDING VALLEY SIDES AND ESCARPMENT SLOPES MIXED CLAY TO BOULDERS AND OR BEDROCK (1 2 3 4)

NP ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT (1 2 3 4) (1 2 3 4)

K KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS AND THE MARGINAL DEPRESSIONS (1 2 3 4) (3 2 3 4)

MC MELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER SILT

M MASS WASTING LOWS AND ELONGATE DETACHMENT SLIDES IN ICE RICH SILT AND CLAY

OSF OLD SLIDE FEATURES GENERALLY DEEPER AND LARGER THAN CURRENT MASS WASTING FEATURES (1 2 3 4) (3 2 3 4)

SR THIN (1 FT) AND RICH OR PEAT OVER ANCIENT BEDROCK SURFACE (1 2 3 4) (3 2 3 4)

BG BOGS SPECKLED WITH WATER MEADOWS UP TO 10 FT OF PEAT ON PEAT PLATEAUS BUT GENERALLY 5 TO 10 FT DEEP (1 2 3 4) (3 2 3 4)

FEN BOGS WITH MOSTLY FEN GENERALLY 2 TO 12 FT OF PEAT (1 2 3 4) (3 2 3 4)

MB MIXED BOG AND FEN PEATS OR LAKE TRAPPED PEAT IN POST GLACIAL POND SED DEPRESSIONS PEAT 0 (COMMONLY 2 TO 7 FT DEEP) FLOODED ALLY MAY REACH 15 FT LOCALLY (1 2 3 4) (3 2 3 4)

SL SLOPE WASH DEPOSITS AND ASSOCIATED SHEET WASH GRAVITY TOPSTRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS WITH SOME GRAVEL SIZES AND THE INORGANIC LAYERS GENERALLY LESS THAN 5 FT THICK BUT MAY REACH 10 FT LOCALLY (1 2 3 3) (3 2 3 3)

WM WIND MODIFIED TILL MAINLY THIN SANDY TO GRAVELLY WASHED LA

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	OFF ROW ACCESS	OFF ROW ACCESS	OFF ROW ACCESS	OFF ROW ACCESS	ACCESS RD TO BORROW AREA #138	MATCH LINE	FOOTAGE THIS SHEET
CONSTRUCTION CHAINAGE	MP 121.6	MP 124.1	MP 128.0	MP 128.6	MP 131.7	MP 133.5	MP 134.7	MP 135.1

DESIGN DATA

UTM GRID ZONE 8&9

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O D x 0.640 W T GRADE 70
HEAVYWALL - 42" O D x 0.729 W T GRADE 70
EXTRA HEAVYWALL 42" O D x 0.865 W T GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21583	90, 91 30, 31, 32, 33

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

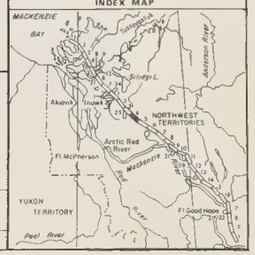
0.5 1.0 Miles

DATE	MARCH 3 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

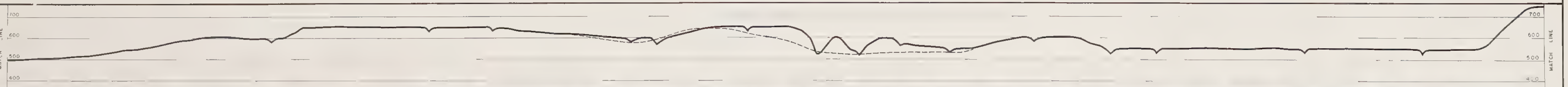
DRAWING/PLAN No. 0300-04
SHEET 4 OF 19
FILE No.

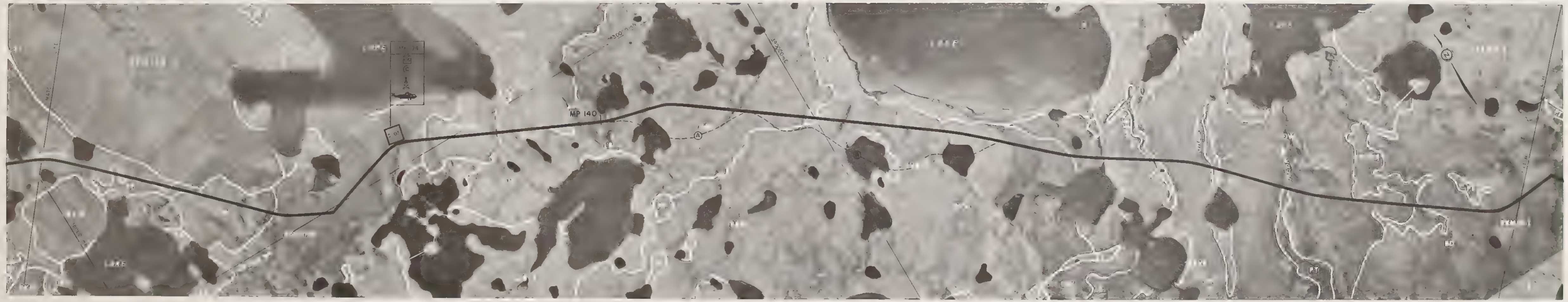
INDEX MAP



DRILL HOLE DATA

PROFILE





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES — MATCH LINE — C-03 — OFF ROW ACCESS — OFF ROW ACCESS — MATCH LINE

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L - Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G - Grass	Ms Moss
c - course	Lmd - lensed	org organic
cv cover	lyrd layered	veg vegetation
f fine	m - medium	vvd varved

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21583	149,150,151,152
A21586	10,11,12

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES
MAINLINE ROUTE

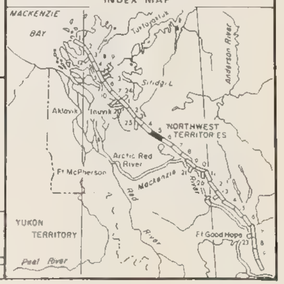
0 — 0.5 — 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE: ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0300-05
SHEET 5 OF 19
FILE No.

INDEX MAP

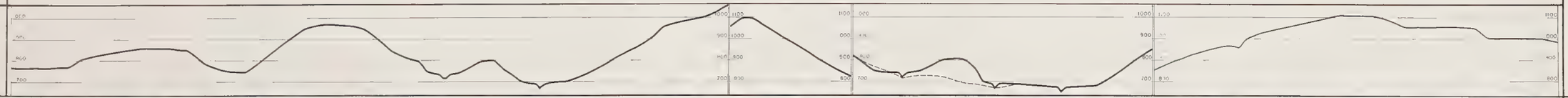


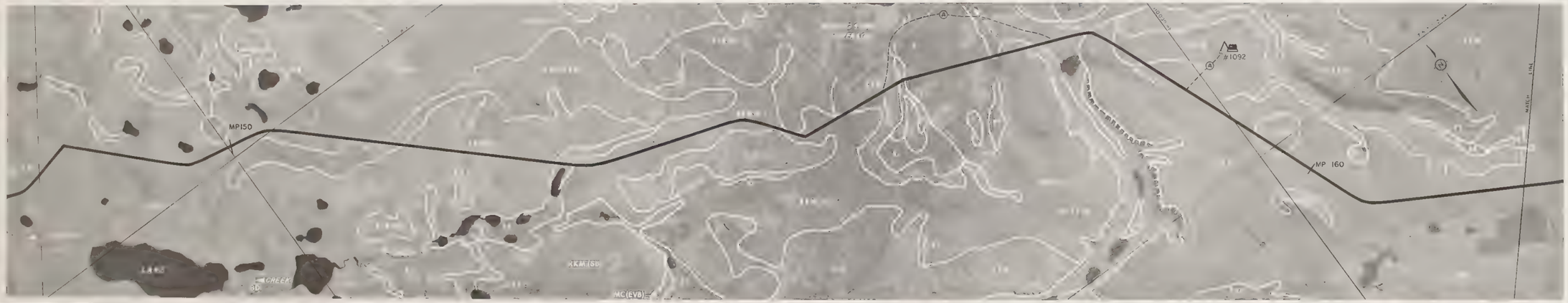
DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD - - -





CONSTRUCTION DESIGN

DESIGN DATA

REFERENCE DRAWING & NOTES	MATCH LINE	OFF R.O.W. ACCESS	OFF R.O.W. ACCESS	ACCESS ROAD TO BORROW AREA #1092	MATCH LINE	FOOTAGE THIS SHEET
CHAINAGE (KILOMETRES)	MP 148.2	MP 155.2	MP 157.3	MP 158.7	MP 162.0	

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
cbl(s) - cobble(s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
y - little 10 to 20%
s - some 20 to 35%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
c - concrete
ice - ice
Grass
Lnsd - lansad
fprd - fireproof
m - medium
Mo - Moss
erg - organic
veg - vegetation
svd - served

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
ANDERSON PLAIN PHYSIOGRAPHIC DIVISION
NORTH CREEK AREA 1:50,000 MAP

LF ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 3 2 2 2 2 3 4 2 3 4 2 4)

ATF ACTIVE FLOODPLAIN SAND AND GRAVEL ON EXPOSED BARS ON LOW GRADIENT DEEP CANADIAN STREAMS AND SAND OR SILT IN BARS ON LOW GRADIENT SHALLOW FAST STREAMS (S 1 2 4 1 2)

ALLUV AL WANDER PLAIN ICE RICH STRATIFIED CLAY SILT AND FINE SAND OVER THIN DISCONT NUOUS LAYER OF SAND AND OR GRAVEL OVER FINE GRAINED LACUSTRINE SILT AND CLAY (S 2 3 2 3 3 2 1 1)

BT BEDROCK TERRAIN BEDROCK OUTCROPS OF VARYING SIZE AT THINNER LY TILL LESS THAN 5 FT TILL AND SILTY COLLUVIUM OVER BEDROCK ON STEEPLY SLOPING BEDROCK ESCARPMENTS NORTH OF NORMAN WELLS AND OCCASIONAL BEDROCK RIDGES BETWEEN THE PEEL RIVER AND THE YUKON INTERBORDER (S 1 2 3 2 3 3 2 1 1 3 4 2)

CAF CONTINENTAL ALPINE FANS ICE RICH POORLY SORTED ORGANIC AND CALCAREOUS SILTY AND SANDY DEPOSITS CONTAINING SOME CLAY AND OCCASIONAL PEBBLES FREQUENTLY WET (S 2 3 2 3 4 3 2 4)

DLT DISTALCT NE SAND PLAIN ICE RICH SILT TOPSTRATUM OVER STRATIFIED SILTY SAND AND SILTY WITH SOME CLAY AND PEBBLES (S 2 4 3 3 3 2 3 2)

F DISTALC COARSE SAND PLAIN STRATIFIED CLEAN TO SILTY SAND AND OR GRAVEL (S 2 2 3 3 2)

I COVERL SAND AND OR GRAVEL IN SMALL NARROW A SHAPED RIDGES WITH OR SILT INCLUSIONS (S 1 2 1 2)

STP PERSIS FLOOD PLAIN ICE RICH SILTY TOPSTRATUM OVER SAND AND OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OF RELATIVELY HIGH ENERGY STREAM (S 1 3 3 2 3 3 3)

LKB GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH MOUNT TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY DISCONTINUOUS WITH A TRACE OF SAND AND PEBBLES (S 2 4 2 4)

B GLACIAL LAKE BASIN THERMOKARST TYPE ICE RICH MOUNT TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND OR SEASONALLY WET SURFACE DUE TO THERMOKARST DEPRESSIONS (S 2 4 2 4)

MW MUSKEG WANDERING LARGE HUMMOCKS AND SHORT PIGOTS COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OCCURS IN SHALLOW PONDS SILTY CLAY SEDIMENTS IN LOCKED KETTLES AND DEPRESSIONS

T HIGH TERRACES SILT COVERED STRATIFIED FLUVIAL AND OR DELTAIC SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MAINSTREAM CHANNELS (S 1 2 3 2 2 3)

K KAMES COMPLEX STRATIFIED SAND AND OR GRAVEL WITH TILL AND BOULDERS (S 1 3 4 3 3)

R RIDGE TERRACE POORLY EXPRESSED TERRACES COMPOSED OF DIRTY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS TILL AND OR LENSES (S 1 3 3 3)

D LACUSTRINE BASINS POSTGLACIAL PONDED LACUSTRINE DEPOSITS IN LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 3 FT THICK OVER TILL (S 3 4 3 2 3 4)

OUTWASH PLAINS AND OUTWASH DELTAS TABULAR BODIES OF SAND AND OR GRAVEL (S 1 2 3 2 3 2 3 2 3 2 3)

RM RIDGE AND KNOLL MORAINE LARGER ROLLING GROUND MORAINE WITH ONLY SOME RIDGE AND KNOLL FORMS LOW TO MEDIUM PLASTIC TILL WITH OR WITHOUT PEAT AND PONDED SEDIMENTS IN DEPRESSIONS (S 1 2 3 2 3 2 3 2 3 2 3)

SD SAND DUNES ELONGATE FINE TO MEDIUM SAND RIDGES (S 1 2 2 3)

E ESCARPMENT S DEPENDS UPON TERRAIN TYPE

A ABANDONED STRANDLINES (S 1 2 3 2 3)

A AUTEUR FLOOD HONDI DEOCIPRENCES IN THE ACTIVE FLOODPLAIN (S 1 2)

B BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOIL (S 3 2 3 4 3 2 3 4)

CD DRAINAGE FORMS INCLUDE NO FLUTING AND GLACIAL GROUVES IN (S 1 2 3 4)

E D ERODING VALLEY SIDES AND ESCARPMENT SLOPES MIXED CLAY TO BOULDERS AND OR BEDROCK (S 2 3 4 3 4)

CI CRYOGENIC POLYGONS USUALLY IN ICE RICH SILT (S 1 2 3 4)

K KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS AND THERMOKARST DEPRESSIONS (S 3 3 4 3 3 2 3 3)

W WELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER SILT (S 2 4 3 2)

M MOUNTAINS AND ELONGATE DETACHMENT SLIDES IN ICE RICH SILT AND CLAY

PM OLD PLACER FEATURES GENERALLY DEEP AND LARGER THAN MODERN (S 1 2 3 4 2 3)

M MAINLY IN ICE RICH SILT (S 1 2 3 2)

THVS THVS TIFT AND PATCHY OR FT OVER AN UNEVEN BEDROCK SURFACE (S 1 2 3 2 3 2 3 2 3 2 3)

B BUTTE SCALLOP WITH WATTON MEADOWS UP TO 15 FT OF PEAT OR SILT (S 1 2 3 4 2 3)

PLATEAUS BUT GENERALLY 3 TO 10 FT THICK OVER TILL (S 3 4 2 3)

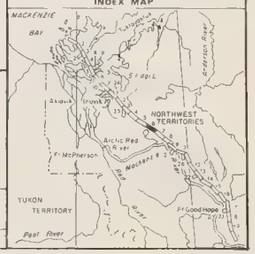
STR NG BOG OR PATTERNED FEN GENERALLY 3 TO 10 FT OF PEAT GENERALLY LESS THAN 5 FT (S 3 4 2 4)

W WOOD BOG AND FEN PEATS OR UNPATTERNED PEAT IN POSTGLACIAL POND DEPRESSIONS PEATS COMMONLY 2 TO 3 FT DEEP BUT OCCASIONALLY MAY REACH 15 FT LOCALLY (S 3 4 2 4)

S SLOPE WASH SEDIMENTS AND ASSOCIATED SHEET WASH GRAVELLY TOPSTRATUM OVER ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS SOME DEPOSITS ELONGATE FORM BUT MAY BE DISCONTINUOUS LAYERS LESS THAN 5 FT THICK BUT MAY REACH 15 FT LOCALLY (S 3 2 3 2 3 2)

SPM MAKE MOUNT TO TILL MAINLY A FIN S RANGE TO GRAVELLY WASHED CAVER OVER TILL (S 1 2 2 3 2 3 2)

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A21586	9, 10, 11, 12
A21584	61, 62

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1600 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
		GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

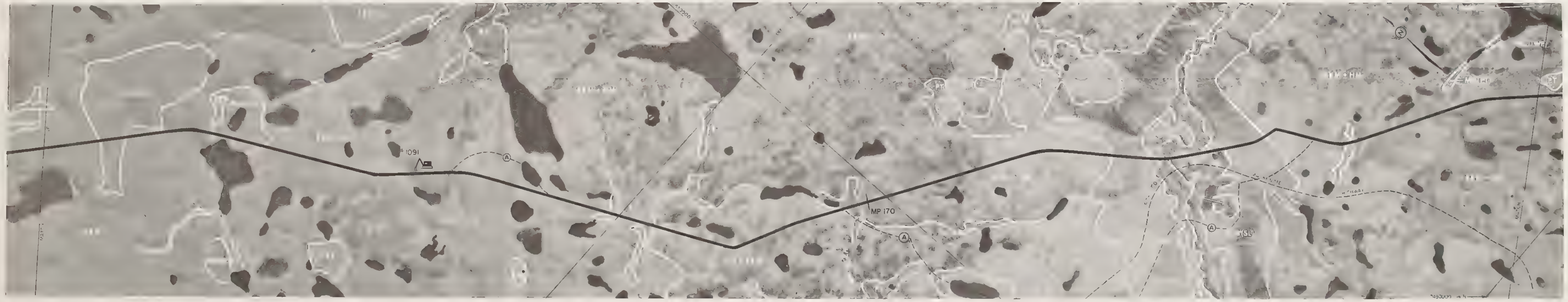
DRAWING/PLAN No 0300-06

SHEET 5 OF 19

TITLE No.

DRILL HOLE DATA

PROFILE — PIPELINE —— ACCESS ROAD - - - -



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H - High plasticity
S Sand	Pt - Peat
M Silt	P - Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss
c coarse	Lnsd - lensed	org organic
cvr - cover	lyrd - layered	veg - vegetation
f fine	m medium	vvd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
ANDERSON PLAIN PHYSIOGRAPHIC DIVISION
NORRIS CREEK AREA TO GIBSON PASS

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 2 1 d2 3&2 4)
AFP ACTIVE FLOOD PLAIN SAND AND GRAVEL ON EXPOSED BARS IN HIGH ENERGY STEEP GRADIENT STREAMS AND SAND OR SILT IN BARS ON LOW ENERGY LOW GRADIENT STREAMS (S 1 2 d)
AMP ALLUVIAL MEANDER PLAIN ICE RICH STRATIFIED CLAY SILT AND FINE SAND OVER THIN DISCONTINUOUS LAYER OF SAND AND/OR GRAVEL OVER TILL OR GLACIOLACUSTRINE SILT AND CLAY (S 2 3 d2 3&2 4)
BP BEDROCK TERRAIN BEDROCK OUTCROPS OF VARYING SIZE WITH THIN (GENERALLY LESS THAN 5 FT) TILL AND SILTY COLLUVIUM OVER BEDROCK ON STEEPLY SLOPING BEDROCK ESCARPMENTS NORTH OF NORMAN WELLS AND OCCASIONAL BEDROCK RIDGES BETWEEN THE PEEL ...
CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC AND INORGANIC SILTY AND SANDY DEPOSITS CONTAINING SOME CLAY AND OCCASIONAL PEBBLES. FREQUENTLY WET (S 2 1 d2 3&4 2 4)
D DELTAIC FINE SAND PLAIN ICE RICH SILT TOPSTRATUM OVER STRATIFIED SILTY SAND AND SILTY WITH SOME CLAY AND PEBBLES
C DELTAIC COARSE SAND PLAIN STRATIFIED CLEAN TO SILTY SAND AND/OR ...
E ESKERS SAND AND/OR GRAVEL IN SMALL NARROW A SHAPED RIDGES ...
FFP FOSSIL FLOOD PLAIN ICE RICH SILTY TOPSTRATUM OVER SAND AND/OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OF RELATIVELY HIGH ENERGY STREAM
GLD GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY OCCASIONALLY WITH A TRACE OF SAND AND PEBBLES
G GLACIAL LAKE BASIN THERMOKARST TYPE ICE RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND/OR STAGNANT WATER IN CLOSED THERMOKARST DEPRESSIONS (S 3 4 d3 4)
HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED ...
PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS (S 1a2 3 d2 3&2 4)
HT HIGH TERRACES SILT COVERED STRATIFIED FLUVIAL AND/OR OUTWASH SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS (S 1 2 d2 2a3)
K KAMES COMPLEXLY STRATIFIED SAND AND/OR GRAVEL MINOR TILL AND ...
KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF DIRTY POORLY SORTED SAND AND/OR GRAVEL WITH COBBLES, VARIABLE OFTEN WITH BOULDERS, TILL AND ICE LENSES (S 1 2 d1 3)
LB LACUSTRINE BASINS POSTGLACIAL PONDED (LACUSTRINE) DEPOSITS IN LARGER FLAT-BOTTOMED KETTLE HOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE ...
OW OUTWASH PLAINS AND OUTWASH DELTAS TABULAR BODIES OF SAND AND ...
RKM RIDGE AND KNOLL MORAINE LARGELY ROLLING GROUND MORAINE WITH AND WITHOUT DRUMLINOID FORMS LOW TO MEDIUM PLASTIC TILL WITH SHALLOW PEAT AND PONDED SEDIMENTS IN DEPRESSIONS
SD SAND DUNES ELONGATE FINE TO MEDIUM SAND RIDGES (S d2 3)
ESCARPMENT S DEPENDS UPON TERRAIN TYPE
AS ABANDONED STRANDLINES (S 2 d2a3)
AUF AUFEIS FLOOD (ICING) OCCURRENCES ON THE ACTIVE FLOODPLAIN (S 1 2)
BD BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOIL (S 2a3 3a4 d3 & 4)
DR DRUMLINOID FORMS INCLUDING FLUTING AND GLACIAL GROOVES WITH LINEAR RIDGES (S 1a2 3 d2a3 3)
EB ERODING VALLEY SIDES AND ESCARPMENT SLOPES MIXED CLAY TO BOULDERS AND/OR BEDROCK (S d2 3a4)
IWP ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT (S 2 4 d2 4)
K KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS AND THERMOKARST DEPRESSIONS (S 1 3 d1 3&2 3)
M MELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER SILT (S 3 4 d3 4)
MF MUDFLOWS AND ELONGATE DETACHMENT SLIDES IN ICE RICH SILT AND CLAY (S 1 2 d2a3 3a4)
OSF OLD SLIDE FEATURES GENERALLY DEEPER AND LARGER FAILURES THAN MF MAINLY IN ICE RICH SILT (S d2&2 3)
TV THIN (0-5 FT) AND PATCHY DRIFT OVER AN UNEVEN BEDROCK SURFACE (S 1a2 2a3 d2a3 & 2a3 3a4)
BS BOGS SPECKLED WITH WHITISH MEADOWS UP TO 15 FT OF PEAT IN PEAT PLATEAUS BUT GENERALLY 5 TO 10 FT DEEP (S 3 4 d3 4)
SB STRING BOG OR PATTERNED FEN GENERALLY 3 TO 12 FT OF PEAT GENERALLY LESS THAN 5 FT (S 3 4 d3 4)
P MIXED BOG AND FEN PEATS OR UNPATTERNED PEAT IN POST-GLACIAL PONDED DEPRESSIONS PEAT IS COMMONLY 2 TO 7 FT DEEP BUT OCCASIONALLY MAY REACH 15 FT LOCALLY (S 3 4 d3 4)
SW SLOPE WASH DEPOSITS AND ASSOCIATED SHEET WASH DRAINAGE TOPSTRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS WITH SOME GRAVEL SIZES AND THIN ORGANIC LAYERS GENERALLY LESS THAN 5 FT THICK BUT MAY REACH 10 FT LOCALLY (S d2a3 3a4)
WM WAVE MODIFIED TILL MAINLY A THIN SANDY TO GRAVELLY WASHED LAYER OVER TILL (S 1a2 2 d2 2a3)

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	BORROW AREA #1091	OFF ROW ACCESS ROAD	OFF ROW ACCESS ROAD	OFF ROW ACCESS ROAD	OFF R/W ACCESS ROAD	MATCH LINE	FOOTAGE THIS SHEET
CONSTRUCTION CHAINAGE	MP 162.0	MP 164.8	MP 166.2	MP 167.1	MP 169.8	MP 173.7	MP 175.5	

DESIGN DATA

UTM GRID ZONE 9

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	——	CONSTRUCTION CAMP (TEMPORARY)	©
COMPRESSOR STATION	[C]	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	—(A)—
METER STATION	[M]	TEMPORARY ACCESS ROAD	--(A)--
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	------
PROPOSED PERMANENT WHARF	(W)	EXISTING HIGHWAY	——
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF	▲	BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER ~ 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A21584	61, 62, 63 106, 107, 108
A21538	107, 108, 109

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

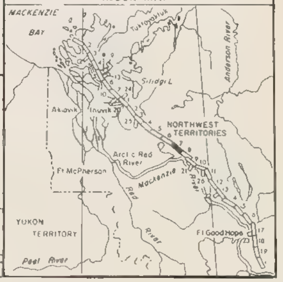
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1 TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR *ANDERSON PLAIN* PHYSIOGRAPHIC DIVISION

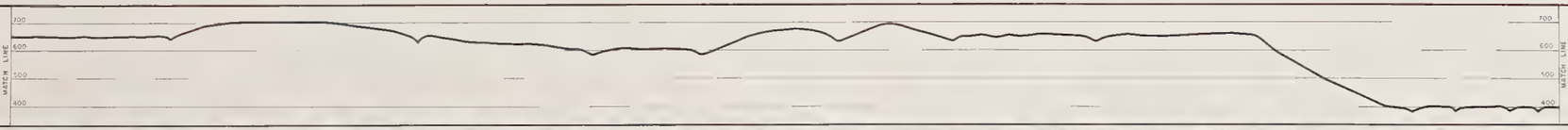
DRAWING/PLAN No. 0300-07 FILE No
SHEET 7 OF 19

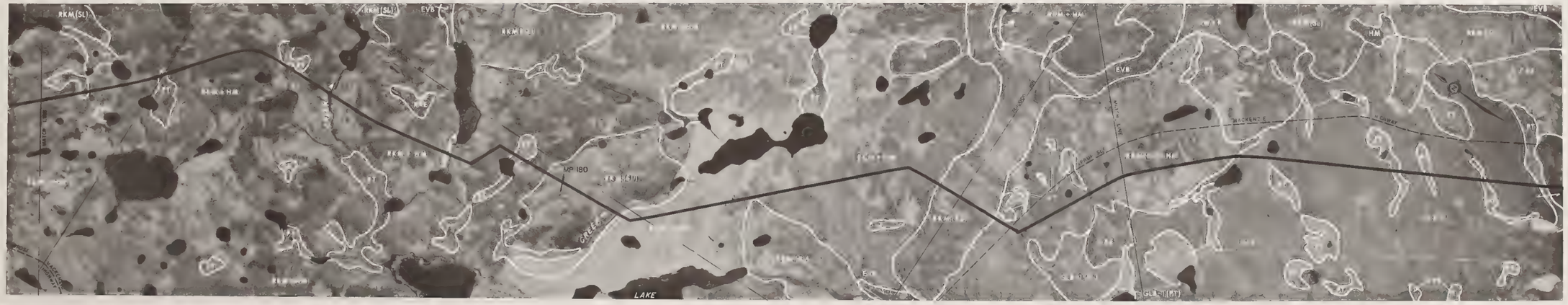
INDEX MAP



DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES — MATCH LINE

CONSTRUCTION CHAINAGE (METRES) — MP 179.5 — MP 185.4

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 9

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THIS LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21538	107, 108, 109
A21585	190, 191, 192, 257, 258, 259

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

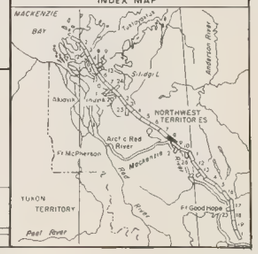
0 0.5 1.0 MILES

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO. 0300-08
SHEET 8 OF 13
FILE No.

INDEX MAP

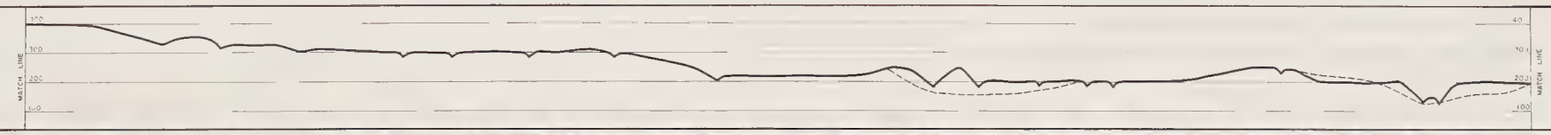


DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD ——



CONSTRUCTION DESIGN

DESIGN DATA	CONSTRUCTION CHAINAGE (STATION)	REFERENCE DRAWING & NOTES	
	MP 85.4	STA. M + 1.4	
	MP 89	A. 1.4 M. RESA SEE DWG. 0300-21	
	MP 91.5	OFF R.O.W. ACCESS	
	MP 92.5	ACCESS RD TO BORROW AREA IN 1056	
	MP 93.0	OFF R.O.W. ACCESS	
	MP 97.4	OFF R.O.W. ACCESS	
	MP 99.4	STA. M + 1.4 OFF R.O.W. ACCESS	

FOOTAGE THIS SHEET

UTM GRIDE ZONE 9

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
cb(s) - cobble(s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldrs - Boulders
W - Well graded

ABBREVIATIONS

MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
s - some 20 to 35%
f - little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

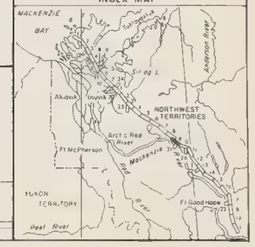
Bdrk - bedrock
c - coarse
cov - cover
f - fine
G - Grass
f - fossil
lyrd - layered
m - medium
Mv - Moss
org - organic
veg - vegetation
vol - varved

TERRAIN AND TERRAIN SENSITIVITY LEGEND

ANDERSON PLAIN PHYSIOGRAPHIC DIVISION
GLB - I (ARCTIC AREA TO DAWSON PASS)

[illegible]

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPE LINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A 21585	257, 258, 259, 90, 91, 92

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REV. S.I.N.	APP'D
		GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

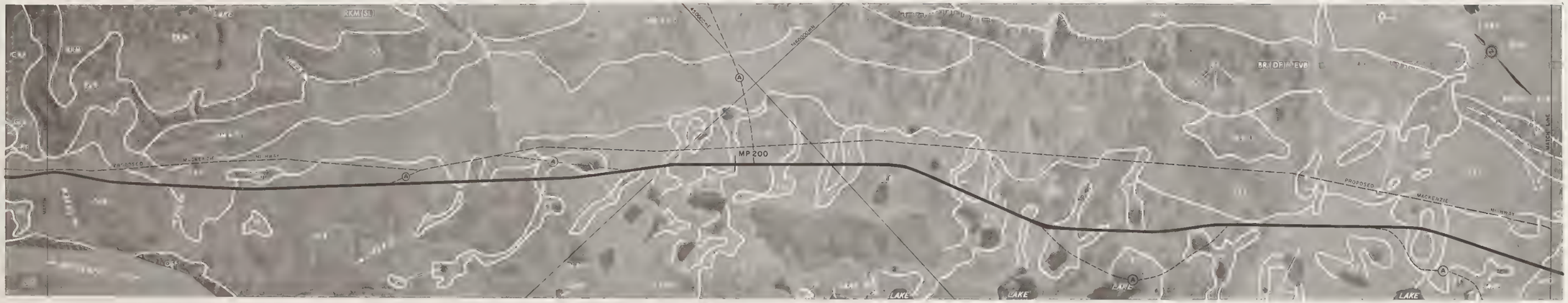
DRAWING/PLAN No. 0300-09

SHEET 9 OF 19

FILE No.

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE																MATCH LINE
CONSTRUCTION CHAINAGE (km)	MP 194.8		MP 197.0	OFF ROW ACCESS ROAD	MP 199.1	OFF ROW ACCESS ROAD	MP 200.2	ACCESS ROAD TO BORROW AREA 207 SEE DWG 0300-26	MP 202.8	OFF ROW ACCESS ROAD	MP 204.5	OFF ROW ACCESS ROAD	MP 205.8	OFF ROW ACCESS ROAD	MP 207.3		
DESIGN DATA																	FOOTAGE THIS SHEET

UTM GRID ZONE 9

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A22418	207, 208, 209, 210
A22584	188, 189, 190
A21585	191, 192

OPERATING LICENSE N
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APP'D
1	1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1 TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0300-10
SHEET 10 OF 19
FILE No.

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt - Peat
M Silt	P Poorly graded
cbl-cl cobble-cl	bldr Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	t. - little 10 to 20%
s. some 20 to 35%	t. trace 1 to 10%

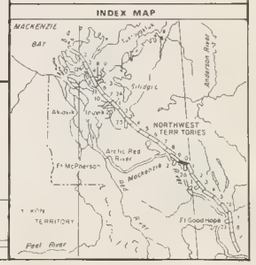
MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Mx - Mixes
c coarse	L-wd limbed	org organic
dry dense	hyd hydrated	veg vegetation
f fine	m medium	wd wooded

TERRAIN MAPPING AND TERRAIN SENSITIVITY LEGEND
FOR
ANDERSON PLAIN PHYSIOGRAPHIC DIVISION
NORTH CREEK AREA TO GIBSON PASS

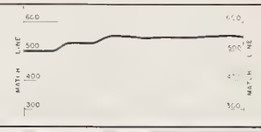
ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 3 3 d2 3 & 2 4)
ACTIVE FLOOD PLAIN SAND AND GRAVEL ON EXPOSED BARS ON LOW EN EROSIVE STEEP GRADIENT STREAMS AND SAND OR SILT IN BARS ON LOW EN (S 2 3 d2 3 & 2 4) (S 3 3 d2 3 & 2 4)
ALLUVIAL MEANDER PLAIN ICE RICH STRATIFIED CLAY SILT AND FINE SAND OVER THIN DISCONTINUOUS LAYER OF SAND AND OR GRAVEL OVER TILL OR GLACIOLACUSTRINE SILT AND CLAY (S 2 3 d2 3 & 2 4)
R LIGHT TERRAIN BEDROCK OUTCROPS OF VARYING SIZE IN THIN (GENERALLY LESS THAN 5 FT) TILL AND SILTY COLLUVIUM OVER BEDROCK ON STEEPLY SLOPING BEDROCK ESCARPMENTS NORTH OF NORMAN WELLS AND OCCASIONAL BEDROCK OUTCROPS BETWEEN THE PEEL & VIR AND THE FORTHNIT BARRIER (S 3 3 d2 3 & 2 4)
CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED SILT SAND GRAVEL AND ORGANIC SILTY SAND DEPOSITS CONTAINING SOME CLAY AND OR GRAVEL LENSES AND VERY FREQUENTLY WET (S 2 3 d2 3 & 4 5)
DELTA FINE SAND PLAIN ICE RICH SILT TEXTURE OVER DEEPER EQ SILTY SAND AND SILTY WITH SOME CLAY AND PEBBLES (S 2 3 d2 3 & 2 4)
DELTA COARSE SAND PLAIN STRATIFIED OCEAN TO SILTY SAND AND OR GRAVEL LENSES (S 2 3 d2 3 & 2 4)
E ESKER SAND AND OR GRAVEL IN SMALL NARROW & SHARPED RIDGES MAY CONTAIN BOULDERS (S 1 2 d1 3)
FFP FOSSIL FLOOD PLAIN ICE RICH SILTY TEXTURE OVER SAND AND OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OF RELATIVELY HIGH ENERGY STREAM (S 1 2 d2 3 & 2 4)
L B GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH MEDIUM TO HIGH LY PLASTIC GLACIOLACUSTRINE SILTY CLAY OCCASIONALLY WITH A FRACE OF SAND AND PEBBLES (S 2 d2 3 & 2 4)
L B GLACIAL LAKE BASIN THERMOKARST TYPE ICE RICH MEDIUM TO HIGHLY GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND OR STRATIFIED SAND (S 3 4 d2 4)
THERMOKARST DEPRESSION (S 3 4 d2 4)
MM MORAINE MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVER ICE SHALLOW POND SILTY CLAY LED HEAVE IN CLOSED KETTLEHOLE DEPRESSIONS (S 3 4 d2 4)
HT HIGH TERRACES SILT COVERED STRATIFIED FLUVIAL AND OR GLACIAL SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND OR OLD WATER CHANNELS (S 1 2 d2 3 & 2 4)
LT LOW TERRACE TERRACE LY STRATIFIED SAND AND OR GRAVEL MINOR TILL AND OR KS (S 1 2 d1 3)
KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF SORTED POOR LY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS, TILL AND OR LENSES (S 1 2 d1 3)
B LACUSTRINE BASINS POST GLACIAL PONDED LACUSTRINE DEPOSITS IN LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BED THICKNESS 1 TO 7 FT SHOW OVER TILL (S 3 d3 d4 3 & 4)
OT OUTWASH PLAINS AND OUTWASH DELTAS TABULAR BODIES OF SAND AND OR GRAVEL (S 1 2 d2 3 & 2 4)
BRM RIDGE AND KNOLL MORAINE LARGELY PRESENT GRAVELLY MORAINE WITH AND IN PARTS OF THE PRESENT RIVER VALLEYS ALSO SHALLOW KETTLES WITH SHALLOW PEAT AND PONDED LAKE BASINS & DEPRESSIONS (S 3 4 d2 4)
SD SAND DUNES ELONGATE FINE TO MEDIUM SAND RIDGES (S 2 3)
ESCARPMENT S DEPENDS UPON TERRAIN TYPE
AC ABANDONED STRAND LINES (S 1 d2)
A AUTO FLUDDD OVERFLOW OCCURRENCES ON THE ACTIVE FLOODPLAIN (S 1 3)
BD BEADED DRAINAGE PATTERN ON ICE RICH SILTY SOIL (S 3 d3 d4 3 & 4)
DP DRAINAGE PONDS INCLUDING FLOTING AND GLACIAL SPOOVES (S 1 d2 3 & 2 4)
LF LINEAR RIDGES (S 1 d2 3 & 2 4)
E EROSION VALLEY SIDES AND ESCARPMENT SLOPES MIXED CLAY TO BOULDERS AND OR BEDROCK (S 3 d3 d4 2 & 2 4)
SP ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT (S 3 4 d2 4)
K KETTLES IN COARSE OUTWASH PLAINS DRIFT TO AND THE PRINCE OF DENNIS
W WELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER SILT
MS MASS MOVEMENTS AND LONGITUDINAL ESCARPMENT SLOPES IN ICE RICH SILT AND CLAY
A OLD SLIDE FEATURES GENERALLY DEEPER AND LARGER THAN ACTIVE SLIDES (S 3 d3 d4 3 & 4)
MF MASSIVE FLOW IN ICE RICH SILT (S 2 & 2 3)
TH HUMMOCKY TERRAIN AND PATCHY OR FLOW OVER AN UNEVEN BEDROCK SURFACE (S 1 d2 3 d3 d4 & 2 & 3 d4)
RC ROCK CHUTES FILLED WITH WITH TIMBER AND OR SILT (S 1 d2 3 & 2 4)
PLATEAUS BUT GENERALLY 20 TO 50 FT DEEP (S 1 2 & d2 4)
SPB SPRING BOG OR PATTERNED FEN GENERALLY 2 TO 12 FT OF PEAT GENERALLY LESS THAN 5 FT (S 3 4 d2 4)
MP MIXED BOG AND FEN PEATS OR UNPATTERNED PEAT IN POST GLACIAL POND OF PRE GLACIAL PEAT IS COMMONLY 2 TO 7 FT DEEP BUT LOCALLY MAY REACH 15 FT LOCALLY (S 3 4 d2 4)
SW SLOPE WASH DEPOSITS AND ALLOCATED SHEET WASH GRAVELLY TO STRATIFIED ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LENSES OF GRAVEL SIZED AND THIN ORGANIC CLAYEY PEAT LENSES (S 2 d2 3 d3 d4 & 2 4)
LS LANDSLIDE TERRAIN OR BUT MAY REACH 8 FT LOCALLY (S 3 d3 d4)
MT MORAINE TILL MAINLY A THIN SAND TO GRAVELLY SILT SHEET OVER A PEAT OVER TILL (S 1 d2 2 d2 2 & 2 d2 2)

INDEX MAP



DRILL HOLE DATA

PROFILE
PIPE LINE
ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldr Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bd X Bedrock	G Grass	Mo Moss
c clayey	L/vd layered	org organic
cov cover	rv/d layered	veg vegetation
f fine	m medium	var varied

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
ANDERSON PLAIN PHYSIOGRAPHIC VISION
NORTH SCREEN AREA NO. 1 BOUNDARY

A1 ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 3 L 3 G 2 B 2 O)
AFP ACTIVE FLOODPLAIN SAND AND GRAVEL ON EXPOSED SURFACE ON LOW EROSY STEEP GRAD ENT STREAMS AND SAND OR SILT INBARS ON LOW EN TRENCHED STREAMS (S 3 G 3)
A1/F ALLUVIAL MEANDER PLAIN ICE RICH DEEP FINE GRAIN SILT AND FINE SAND OVER THIN DISCONTINUOUS LAYER OF SAND AND OR GRAVEL OVER
B1 BEDROCK TERRAIN BEDROCK OUTCROPS OR VARYING 0-25 M THICK GENERALLY LESS THAN 5 FT TILL AND SILTY COLLUVIUM ON THE SURFACE ON STEEPLY SLOPING BEDROCK ESCARPMENTS NORTH OF NORMAN WELLS
CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC AND INORGANIC SILT AND SANDY FE DEPOSITS CONTAINING SOME CLAY AND OC CASIONAL PEBBLES FREQUENTLY WET (S 3 L 3 Sand & 2 M)
GL GELTLAC FINE SAND PLAIN ICE RICH SILT TOP STRATUM OVER STRATIFIED SILTY SAND AND SILTY WITH SOME CLAY AND PEBBLES (S 2+L 1+M 2 B 2+M)
DLL DELTAIC COARSE SAND PLAIN GENERALLY CLEAN TO SILTY SAND AND OR GRAVELLY SAND (S 2 G & B)
L LOCKS SAND AND OR GRAVEL % SMALL NARROW & SHARPE RIDGES W % AVEL BELOW THE ACTIVE FLOOD PLAIN OF RELATIVELY HIGH ENERGY
LLR GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH MED OR TO HIGH LY PLASTIC GLACIOLACUSTRINE SILT CLAY (OCCASIONALLY WITH A TRACE OF SAND AND PEBBLES (S 2+L 2+M 1+M 1 Sand)
A GLACIAL LAKE BASIN THE MODERATE TYPE ICE RICH MED OR TO HIGHLY PLASTIC CLAY OCCASIONALLY SILTY CLAY WITH PEAT AND OR STAGNANT
M MUSKEG OR MOSS MARSH LARGE HUMMOCKS AND SHORT PEATS COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVERLIES SHALLOW OR DEEP SILTY CLAY SEDIMENTS % CLOSED ASTEEL-CONE CYPRESS (S 3 L 3)
M1 HIGH TERRACES SILT COVERED STRAT I ED FLUVIAL AND ICE OUTWASH SAND AND GRAVEL ALONG THE CLOSE UP PRESENT RIVER VALLEY TO SAME ABANDONED MELTWATER DRAINAGE (S 1 G 3 L 2+M)
A MAINLY COMPLEXLY STRATIFIED SAND AND GRAVEL WITH SILTS AND
KT KAME TERRACE POORLY EXPRESSED TERRACES DEPOSITED OF BIRTY POOR LY SORTED SAND AND OR GRAVEL WITH COBBLES LAR AMILE DEPTH WITH BOULDERS TILL AND ICE LENSES (S 1 2 L1 B)
LB LANDSCAPING BASINS POSTGLACIAL PONDED LACUSTRINE DEPOSITS IN LAR GER FLAT BOTTOMED KETTLE HOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 3 FT THICK OVER TILL (S 2+G 1+M 2 Sand)
OW OUTWASH PLAINS AND OUTWASH DELTAS TABULAR BOD TE ST SAND AND OR GRAVEL (S 3 G 2 Sand)
REN R DGE AND ROLL MORAINE LARGELY ROLLING GROUND MORAINE WITH SAND AND OR GRAVEL DRAINING 2 SERNE LOW TO MEDIUM RELIEF TILL WITH SHALLOW PEAT AND PONDED SED MENTS % DEFFICIONS (S 2 G 1 L 1+M 3 B 2+M 3 Sand)
SD SAND DUNES ELONGATE FINE TO MEDIUM SAND RIDGES (S 3 S)
ESCARPMENT S DERIVED UPON TERRAIN TYPE
AS ABANDONED STRAMGUNTS (S 2 G+M)
AFP ANTI FLOOD CHANNELS REMOVED FROM THE ACTIVE FLOODPLAIN (S 1 S)
BS SEADED DRAINAGE PATTERN ICE RICH SILTY SOIL (S 2+S Sand & S to L 1+M 1 G)
DRUMLINOID FORM INCLUDING FLUTING AND GLACIAL GROOVES WITH L 1 MAN RIDGES (S 1+S 2 G+M B)
L, P SHALLOW PEATLAND SLOPES AND ESCARPMENT SLOPES WITH CLAY SAND AND OR BEDROCK (S 1 G 2 Sand)
GP ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT (S 3 G 1 M)
K KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS AND THE INCIPIENT DEPRES SIONS (S 1 S 2 G 2 B 2 S)
W1 WELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER S S (S 1 G 2 M)
MD MUD FLOWS AND ELONGATE DETACHMENT SLIDES IN ICE RICH SILTY SOIL (S 1 S+M 2 Sand)
OFS OLD SLIDE FEATURES GENERALLY DEEPER AND LARGER FA LIFTS THAN MF MA WAT N ICE RICH SILT (S 1 S+M 2 Sand B)
S SOLIFLUCTION LOBES WITH PEAT OVER AN UNDERLYING BEDROCK (S 1 S+M 2 Sand)
T ROLLS SPOILED WITH PEAT FOR HOOVES UP TO 15 FT OF PEAT OVER PLATEAUS BUT GENERALLY 5 TO 1 FT DEEP (S 3 G 2 B 1)
S1 SOLIFLUCTION PATTERNED TERRAIN GENERALLY 2 TO 1 FT OF PEAT OVER BARELY LESS THAN 5 FT TILL (S 1 G 2 B 1)
P1 PATTERNED GROUND PEAT PLATEAUS OR UNPATTERNED PEAT ON POST GLACIAL SAND DEPRESSIONS PEAT IS COMMONLY 2 TO 1 FT DEEP BUT OCCASION ALLY MAY REACH 15 FT LOCALLY (S 2 M 2)
GW GLACIAL WASH DEPOSITS AND ASSOCIATED SHEET WASH DRAINAGE TOP STRATUM OF 1 2 M OR POORLY SORTED SILTY CLAY AND SILTY SAND LA YERS WITH SOME GRAVEL 5 25 AND 1+M OFTEN CLAYTES GENERALLY LESS THAN 5 FT TH OR BUT MAY REACH 15 FT LOCALLY (S 1+M 2 Sand)
FM MAUL MOD FIED TILL MAINLY A THIN SANDY TO GRAVELLY WASHED LA YER OVER TILL (S 1+S 2 G 2 Sand)

FOOTAGE THIS SHEET

CONSTRUCTION DESIGN

REFERENCE DRAWING NUMBER	CONSTRUCTION CHAINAGE (KM)	
	MP 207.3	MAT H LINE
	MP 207.8	OFF ROW ACCESS
	MP 210	ACCESS ROAD TO BORROW PIT #1047
	MP 214.7	ACCESS ROAD TO BORROW PIT #1047
	MP 215.7	MATCH LINE
	MP 5.7	MATCH LINE
	MP 17.1	MATCH LINE

DESIGN DATA

UTM GRID ZONE 9

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	C
COMPRESSOR STATION	C	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	A
METER STATION	M	TEMPORARY ACCESS ROAD	A
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF	W	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPE LINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21584	189,190,210,211
A21538	45,46,47

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1880 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

0 5 10 Miles

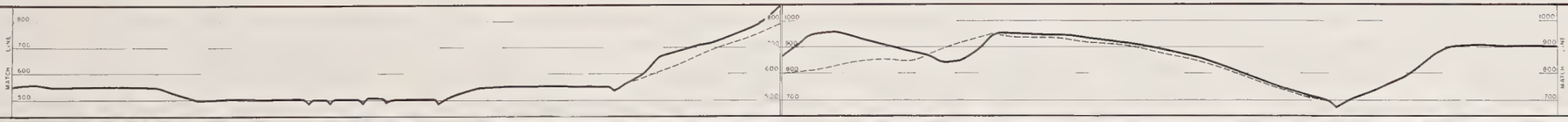
DATE	MARCH 3, 1975
SCALE	1" TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0300-11
SHEET 1 OF 1
FILE No.

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE		OFF R.O.W. ACCESS ROAD		OFF R.O.W. ACCESS ROAD		ACCESS ROAD TO BOURSON CREEK BRIDGE		OFF R.O.W. ACCESS ROAD		MATCH LINE
CONSTRUCTION CHAINAGE (KM)	MP 217.1		MP 226.6		MP 226.1		MP 226.5		MP 228.5		MP 228.5
DESIGN DATA											

FOOTAGE THIS SHEET

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
cb(s) - cobble(s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
s - some 20 to 35%
l - little 10 to 20%
t - trace 1 to 10%

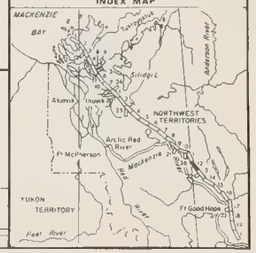
MISCELLANEOUS ABBREVIATIONS

Bdk - bedrock
c - coarse
cvr - cover
f - fine
G - Grass
Lnsf - fanned
hyrd - layered
m - medium
Bfs - Moss
org - organic
vtg - vegetation
vrd - varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

[illegible]

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.6 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21584	209, 210, 211
A22421	96, 97, 98

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1 M.

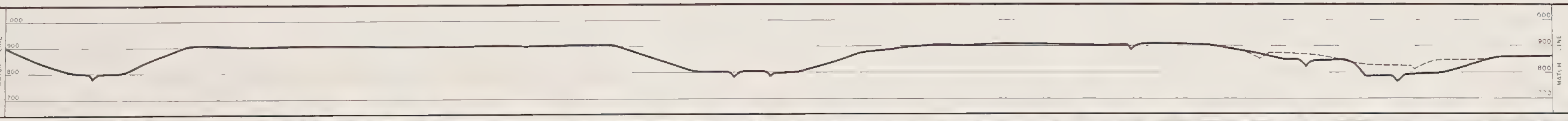
DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

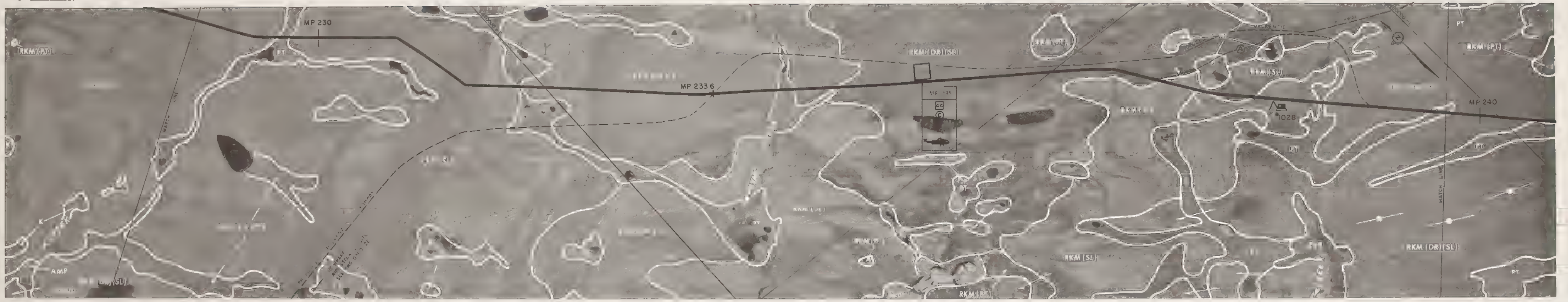
TITLE: ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0300-12
SHEET 12 OF 19
FILE No.

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD





REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel	O - Organic
L - Low plasticity	H - High plasticity
S - Sand	Pt - Peat
M - Silt	P - Poorly graded
cbl(s) - cobble(s)	bldrs - Boulders
C - Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%	l - little 10 to 20%
s - some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock	G - Grass	Ms - Moss
c - coarse	lmd - lensed	org - organic
cvr - cover	lyrd - layered	veg - vegetation
f - fine	m - medium	vvd - varved

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES: MATCH LINE; ACCESS TO WHARF SITE AND STOCKPILE SEE DWG 0300-22; OFF R.O.W. ACCESS; BORROW AREA # 1028; OFF R.O.W. ACCESS; MATCH LINE

DESIGN DATA

UTM GRID ZONE 9

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	
METER STATION		TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF		EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A21537	9,10,11,12
A22421	96,97,98, 204,205, 206, 207, 208

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO.	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO	DATE	REVISION	APP'D
1	MAR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES
MAINLINE ROUTE

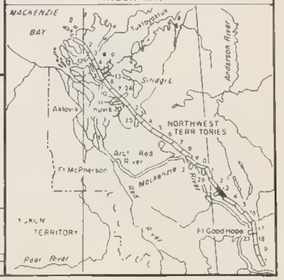
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE: ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0300-13 SHEET 13 OF 19 FILE No.

INDEX MAP



DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD

CONSTRUCTION DESIGN

REFERENCE DRAWING NUMBER — MATCH LINE — OFF R O W ACCESS — OFF R O W ACCESS — OFF R O W ACCESS — MATCH LINE

CONTROL LINE CHAINAGE — MP 239.7 — MP 246.2 — MP 247.3 — MP 252.3

DESIGN DATA

FOOTAGE FROM SHEET

UTM GRID ZONE 9

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O D x 0.540 W.T GRADE 70
HEAVYWALL 42" O D x 0.720 W.T GRADE 70
EXTRA HEAVYWALL 42" O D x 0.865 W.T GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A21537	11,12,13

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APPD
1	APR 9 1979	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

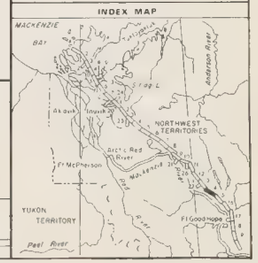
TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

DRAWING PLAN NO. 0300-14
SHEET 14 OF 19
REF. No.

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

[illegible]

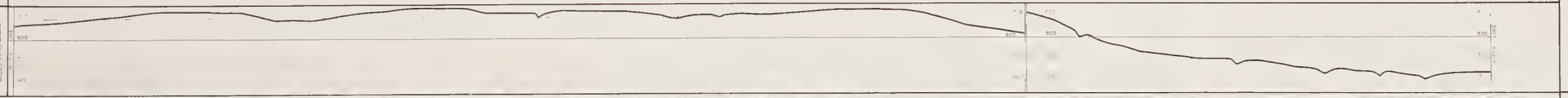
INDEX MAP



DRILL HOLE DATA

PROFILE

PIPE LINE ALIGNMENT



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
cobble(s) - cobble(s)
C - Clay

O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldr - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

x and 35 to 50%
x where 20 to 35%
x - trace 10 to 20%
x - trace 1 to 10%

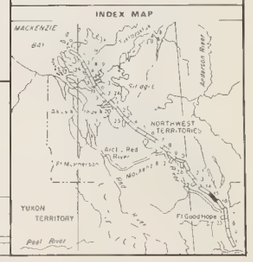
MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
Cl - clay
cov - cover
O - Grass
Lnd - land
lyrd - layered
m - medium
Mx - Mixed
veg - vegetation
veg - vegetated

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (1 2 3 U2 3 & 4)
AFP ACTIVE FLOOD PLAIN SAND AND GRAVEL ON EROSIONAL BARS IN WIDENED ENCRYSTED GRAD ENT STREAMS AND SAND OR SILT IN BASIN OR LOW ENERGY LOW GRADIENT STREAMS (1 2 U4)
CLF TILL OR GLACIOLACUSTRINE SILT AND CLAY (1 2 3 U2 3 & 2 4)
BR ON DEEPLY SLOPING BEDROCK ESCARPMENTS NORTH OF NORMAN WELLS AND OCCASIONAL BEDROCK RIDGES BETWEEN THE PEEL RIVER AND THE HIGHWAY BORDER (1 1 2 U4 1 2 U2 & 3 2 U4)
CAF ON LESS LOW ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC AND MARGANIC SILTY AND SANDY DEPOSITS CONTAIN NO SOME CLAY AND GRAVEL
WATER
RT RAISED TERRACE POORLY EXPRESSED TERRACES COMPOSED OF DEEPLY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN RICH BOULDERS TILL AND ICE LENSES (1 2 U4 3)
OR SAND REDEPOSITED 2 3 U2 7 FT THICK OVER TILL
RKM OUTWASH PLAIN AND OUTWASH DELTAS TABULAR BODIES OF SAND AND GRAVEL (1 1 3 U2 3 & 2 U2 3)
RKM DEAD AND KNOLL MORAINE LARGELY ROLLING GROUND MORAINE WITH AND WITHOUT DRAINLESS POND LOW TO MOD LIKELIHOOD OF ELEMENTS SHALLOW PEAT AND PONDED DEPOSITS IN DEPRESSIONS
SD SAND DUNES ELONGATE FINE TO MEDIUM SAND & DUES (5 U2 3)
EEEEEE ESCARPMENT S DEPENDS UPON TERRAIN TYPE
AD ARMORED ZIPPANDS HER (5 2 U4 5)
AUF ALFEIS FLOOD IGNIO DOCLARKNESS ON THE ACTIVE FLOODPLAIN (1 2 3)
BD BEADED DRAINAGE PATTERN IS ICE RICH SILTY SOIL (1 2 U2 3 & 4) DRONEL VOID FORMS INCLUDING FLUTING AND GLACIAL CANDLES WITH HEAR RIDGES (1 1 2 U2 3 U2 3)
EVB ERODING VALLEY SIDES AND ESCARPMENT SLOPES MIXED CLAY TO BOULDERS AND OR BEDROCK (5 U2 3 U4)
IMP ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT (1 2 4 U2 4)
K KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS AND THERMOKARST DEPRESSIONS
WC WELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER SILT (1 2 U2 3)
MT MOUFLONS AND ELONGATE DETACHMENTS DEEP IN ICE RICH SILT AND CLAY
ODT OLD SLIDE FEATURES GENERALLY DEEPER AND LARGER THAN SLIDES THAN MT MAINLY IN ICE RICH SILT (1 U2 2 3)
TN NOD TFT AND PATCHY DRIFT OVER AN UNEVEN BEDROCK SURFACE (1 U2 2 U2 3 U2 3 & U2 3 3 U2 3 U2 3 & 4)
BS BOLS SPECKLED WITH WATER IN MEADOWS UP TO 15 FT OF PEAT OVER SILT (1 2 U2 3 & 4)
SB SOLIFLUCTION TERRACES FEW GENERALLY 3 TO 12 FT OF PEAT GENERALLY (1 2 U2 3)
PT MIXED BOG AND FEN PEATS OR UNPATTERNED PEATS IN POST GLACIAL POND LEAKS LENSES PEAT 5 DEPENDS UP TO 7 FT THICK (1 2 U2 3)
SL ALTS MAY REACH 5 FT LOCALLY (1 2 U2 3)
MW MOUFLONS WITH ELONGATED SHEET WASH DRAINAGE TOP STRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILT SAND GRAVEL WITH SOME GRAVEL SIZES AND THIN ORGANIC LAYERS GENERALLY LESS THAN 5 FT THICK BUT MAY REACH 8 FT LOCALLY (1 U2 3 U2 3 & 4)
MW MOUFLONS TILL MAINLY ATH SANDY TO GRAVELLY WASHED LAYER OVER TILL (1 U2 2 U2 3 U2 3)

INDEX MAP



CONSTRUCTION DESIGN

DESIGN DATA

REFERENCE DRAWING & NOTES

CHAINAGE

MARSH LINE

MP 259.5

ACCESS ROAD TO BORROW PIT

MP 260.5

MARSH LINE

FOOTAGE THIS SHEET

UTM GRID ZONE 9

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO.
A21537	84, 85, 86 129, 130, 131

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APPD
1	APR 02 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1 TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

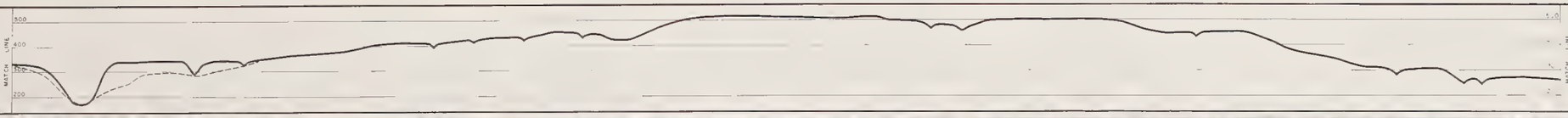
DRAWING/PLAN No. 0300-15

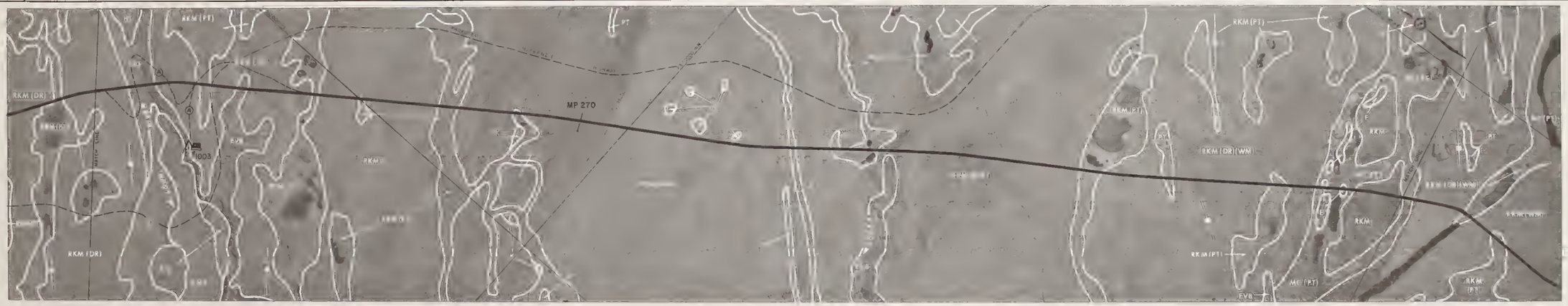
SHEET 15 OF 19

FILE No.

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE Drawing No. SHEET	MATCH LINE	OFF R O W ACCESS	OFF R O W ACCESS	OFF R O W ACCESS ACCESS TO BORROW AREA # 1003	OFF R O W ACCESS	MAP # 17	FOOTAGE THIS SHEET
CONSTRUCTION CHAINAGE	MP 265.6	MP 266.5	MP 266.5	MP 267.7		MP 271.7	

DESIGN DATA

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P - Poorly graded
cb(s) cobble(s)	bldrs Boulders
C Clay	W - Well graded

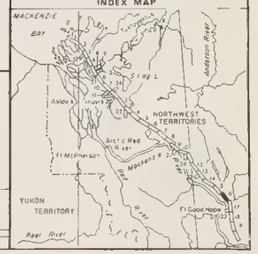
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

e and 35 to 50%	L - little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Brk bedrock	G - Grass	Ms Moss
c coarse	L-nd forested	org organic
dr - drier	lyrd - layered	veg vegetation
f fine	m - medium	wd wooded

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.548 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A21537	130, 131
A22421	125, 126, 154, 155, 156

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1440 PSI

NO	DATE	REVISION	APP'D
1	2 20 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1 MILES

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED	
APPROVED	
CIVIL ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

DRAWING PLAN No. 0300-16

FILE No.

DRILL HOLE DATA

PROFILE

PIPE LINE
ACCESS ROAD

CONSTRUCTION DESIGN

DESIGN DATA	REFERENCE DRAWING & NOTES
MP 278.7	MATCH LINE
MP 279.6	OFF R.O.W. ACCESS
MP 281.6	R.O.W. & ACC. (WM) EXISTING ROAD TO FORT GOOD HOPE - SEE DWG. NO. 0300-25
MP 282.0	ACCESS ROAD TO BORROW AREA FOR W.2
MP 282.7	OFF R.O.W. ACCESS
MP 283.0	COMM. SER. DWG 0300-23
MP 284.0	OFF R.O.W. ACCESS
MP 290	
MP 290.3	MATCH LINE

FOOTAGE THIS SHEET

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
Cbl Cobbles — Bldr Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — i 1 to 10 to 20%
s some 20 to 35% — t trace 1 to 10%

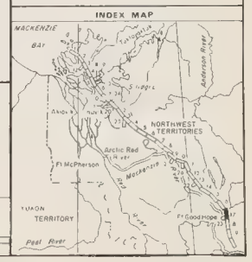
MISCELLANEOUS

Bdk bedrock — G Grass — Mx Muck
Cbl cobble — Lmb limber — O.S Organic
Cl clay — veg vegetation
L lake — m medium — vrd varved

ANDERSON PLAIN PHYSIOGRAPHIC DIVISION
NORTH SHORE AREA TO DISPERSION PASS

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 2 3 d) (3 6 2 n)
AFP ACTIVE FLOOD PLAIN SAND AND GRAVEL ON EXPOSED BARS IN HIGHEN ERGY STEEP GRADIENT STREAMS AND SAND OR SILT IN BARS ON LOW EN ERGY LOW GRADIENT STREAMS (S 1 3 d) (1 3 d) (1 2)
AMW ALLUVIAL MEANDER PLAIN ICE RICH STRATIFIED CLAY SILT AND FINE SAND OVER THIN DISCONTINUOUS LAYER OF SAND AND OR GRAVEL OVER TILL OR GLACIOLACUSTRINE SILT AND CLAY (S 1 3 d) (1 3 d) (1 2)
BR BEDROCK TERRAIN MOUNTAINOUS TERRAIN WITH SLOPES VARY FROM 0 TO 35 PER CENT AND THIN DISCONTINUOUS TILL AND SILTY COLLUVIUM OVER BEDROCK ON EXTENSIVE SLOPES BEDROCK ESCARPMENTS NORTH OF NORMAN WELLS AND OCCASIONAL BEDROCK RIDGES BETWEEN THE PEEL RIVER AND THE MACKENZIE BORDER (S 1 3d) (1 3d) (1 3d)
[illegible] ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC AND [illegible] SILTY AND SANDY DEPOSITS CONTAINING SOME CLAY AND PEAT [illegible] ICE FREQUENTLY WET (S 2 3 d) (3 6 2 n)
[illegible] BELLACE NE SAND PLAIN ICE RICH SILT TOPSTRATUM OVER SAND AND GRAVELLY SAND AND SILTY WITH SOME CLAY AND PEBBLES (S 2 3d) (3 6 2 n)
[illegible] DELTAIC COARSE SAND PLAIN STRATIFIED OCEAN TO SILTY SAND AND OR GRAVELLY SAND (S 2 3 d) (1 2)
[illegible] ESKERS SAND AND OR GRAVEL IN SMALL NARROW A SHARP CRESTED RIDGE OR SILT INCLUSIONS (S 1 2 d) (1 2)
[illegible] ESKERS ICE RICH SILTY TOPSTRATUM OVER SAND AND OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OR RELATIVELY HIGH ENERGY STREAM (S 1 2d) (1 2d)
GLB GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY OCCASIONALLY WITH A FRACTION OF SAND AND PEBBLES (S 2d) 3d) (2d) 3d) 3d)
[illegible] WATER IN CLOSED THERMOKARST DEPRESSIONS (S 1 4d) (1)
[illegible] MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVERLIES SHALLOW [illegible] DEPRESSIONS (S 1 3 d) (1)
[illegible] SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND [illegible] (S 1 3 d) (1)
[illegible] KAMES COMPLEXLY STRATIFIED SAND AND OR GRAVEL WINDY TILL AND BOULDERS (S 1 3 d) (1)
[illegible] KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF OR WITH POORLY [illegible] (S 1 3 d) (1)
[illegible] SAND BEDS COMMONLY 2 TO 17 FT THICK OVER TILL (S 2d) 3d) 3d)
[illegible] SAND BEDS COMMONLY 2 TO 17 FT THICK OVER TILL (S 2d) 3d) 3d)
[illegible] OUTWASH PLAINS AND OUTWASH DELTAS TABULAR BODIES OF SAND AND [illegible] (S 1 3 d) (1)
[illegible] R DOE AND KOLL MORAINE LARGELY ROLLING GROUND MORAINE WITH [illegible] AND OR THICK FOUNDED TOPS LOW TO MEDIUM PLASTIC TILL WITH [illegible]
[illegible] SAND DUNES ELONGATE FINE TO MEDIUM SAND [illegible]
[illegible] ESCARPMENT S DEPENDS UPON TERRAIN TYPE
[illegible] ABANDONED STRANDLINES
[illegible] RIVER S FLOOD POND OCCURRENCES ON THE ACTIVE FLOODPLAIN
[illegible] READED DRAINAGE PATTERN ICE RICH SILTY SOIL (S 2d) 3d) 3d) 3d)
[illegible] LINEAR RIDGES (S 1 3 d) (1 3 d) (1 3 d)
[illegible] ERODING VALLEY SIDES AND ESCARPMENT SLOPES MIXED CLAY TO ROCK DEBRIS AND OR BEDROCK (S 2) 3d)
[illegible] ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT (S 2 4 d) (1)
[illegible] KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS AND THE MORAINE DEPRESSIONS (S 1 3 d) 3d) 2)
[illegible] WELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER IT (S 2 4 d) 4)
[illegible] MOR LOWS AND ELONGATE DETACHMENT SLUGS IN ICE RICH SILT AND CLAY
[illegible] OUD SUBSIDENCE FEATURES GENERALLY DEEPER AND LARGER THAN 1 3 FEET
[illegible] MF WANNY IN ICE RICH SILT (S 4d) 2 3)
[illegible] IN SILT FEET AND PATCHY OF FT OVER AND UNEVEN BEDROCK SURFACE (S 1 3d) 3d) (3d) 2d) 3d) 3d)
[illegible] BOG SPECIALLY IN MARSHY SHALLOWS (S 1 3 FT OF PEAT (S 1 3 d) 4)
[illegible] PLATEAUS BUT GENERALLY 3 TO 8 FT DEEP (S 1 3 d) 4)
[illegible] STRING BOG OR PATTERNED FEN GENERALLY 3 TO 12 FT OF PEAT GLACIERALLY LED THAN 8 FT (S 3 4) 4)
[illegible] MIXED BOG AND FEN PEATS OR UNPATTERNED PEAT IN POST GLACIAL PONDED DEPRESSIONS PEAT IS COMMONLY 3 TO 17 FT DEEP BUT OCCASIONALLY MAY REACH 15 FT LOCALLY (S 3 4d) 4)
[illegible] SLOPE WASH DEPOSITS AND ASSOCIATED SHEET WASH DRAINAGE TOP STRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYER OF SAND AND GRAVEL OVER TILL OR BEDROCK PEAT IS COMMONLY LESS THAN 8 FT THICK BUT MAY REACH 15 FT LOCALLY (S 2d) 3d)
[illegible] MAINLY MODIFIED TILL MAINLY A TH SANDY TO GRAVELLY WASHED LA [illegible]

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 22421	125, 126
A 21537	130, 131
A 21585	154, 155, 156

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE 1440 PSI
MAXIMUM OPERATING PRESSURE 1800 PSI 1250 PSI

MP	DATE	REVISION	APP'D
1	2-24-1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES
MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

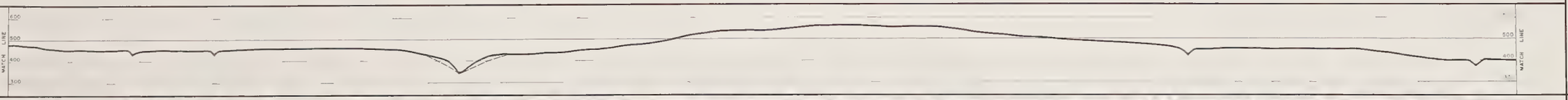
DRAWING/PLAN No. 0300-17
SHEET 17 OF 19
FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE

ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE

DESIGN DATA

MATCH LINE

MP 290.0

OFF R.O.W. ACCESS

MP 292.7

OFF R.O.W. ACCESS

MP 292.9

ACCESS ROAD TO BORROW AREA # 315

MP 298.5

MP 302.2

MATCH LINE

FOOTAGE THIS SHEET

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
cbl(s) - cobble(s)
C - Clay

O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 25 to 50%
s - some 20 to 35%

l - little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
c - coarse
cnr - corner
f - fine
G - Grass
Lmd - limed
lyrd - layered
m - medium
Ms - Moss
org - organic
vtn - vegetation
vrd - varved

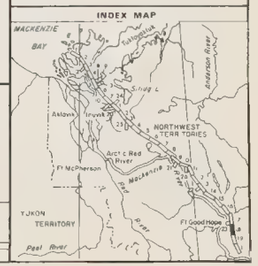
TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

ANDERSON PLAIN

NORTH LIMEKILN AREA TO ~80KM N KDS

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COB
B L A N K
AFP ALLUVIAL FAN PLAIN SAND AND GRAVEL ON EXPOSED BARS IN HIGHLY
ACTIVE STEEP GRADIENT STREAMS AND SAND OR SILT IN BARS ON LOW EN
ERGY LOW GRADIENT STREAMS
AMP ALLUVIAL MEANDER PLAIN OLD ROUGH STRATIFIED CLAY SILT AND FINE
SAND OVER 2 M IN DISCONTINUOUS LAYER OF SAND AND OR GRAVELS OVER
TILL OR GLACIOLACUSTRINE SILT AND CLAY
BR BEDROCK TERRAIN BEDROCK OUTCROPS OF VARYING SIZE WITH THIN
DISCONTINUOUS (LESS THAN 5 FT) TILL AND SILTY COLLUVIUM OVER BEDROCK
BEDROCK ESCARPMENTS NORTH OF NORMAN WELLS
AND VARIOUS SMALL BEDROCK RIDGES BETWEEN THE FIELD AND NORTH
EAF IDEALIZED ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC AND
INORGANIC SILTY AND SANDY DEPOSITS CONTAINING SOME CLAY AND OC
CASIONAL PEBBLES FREQUENTLY WET
FL OFF FAN FINE SAND PLAIN ICE RICH SILT TOPSTRATUM OVER STRATIFIED
SILTY SAND AND SILTY WITH SOME CLAY AND PEBBLES
FLA GLACIAL COARSE SAND PLAIN STRATIFIED CLEAN TO SILTY SAND AND GR
AVEL ON THE ACTIVE FLOOD PLAIN
E ESKERS SAND AND OR GRAVEL SMALL NARROW & SHARPE RIDGES WITH
STEEP SIDES
FFP FOSSIL FLOOD PLAIN ICE RICH SILTY TOPSTRATUM OVER SAND AND OR GR
AVEL BELOW THE INACTIVE FLOOD PLAIN OF RELATIVELY HIGH ENERGY
STREAM
GLB-1 GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH MEDIUM TO HIGH
LY PLASTIC GLACIOLACUSTRINE SILTY CLAY BEDDED WITH SILTY SAND AND
OF SAND AND PEBBLES
GLB-2 GLACIAL LAKE BASIN THERMOKARST TYPE ICE RICH MEDIUM TO HIGHL
Y PLASTIC GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND OR STAGNANT
WATER IN CLOSED THERMOKARST DEPRESSIONS
HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED
MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVERLIES SHALLOW
POND SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS
HT HIGH TERRACES SILT COVERED STRATIFIED FLUVIAL AND OR OUTWASH
SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND
ABANDONED MELTWATER CHANNELS
K KAMES COMPLEX STRATIFIED SAND AND OR GRAVEL MINOR TILL AND
OTHER
KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF G RTY POOR
LY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH
BOULDERS, TILL AND OR LENSES
LB LACUSTRINE BASINS POSTGLACIAL PONDED PLAIN STRATIFIED DEPOS ITS IN LA
RGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS PEAT
COVERED COMPOSED OF ORGANIC AND NONORGANIC CLAY SILT AND FINE
SAND
OW OUTWASH PLAINS AND OUTWASH DELTAS TABULAR ROUGH GRAVEL SAND AND
OR COBBLES
MM MORAINE MORAINE LARGELY ROLLING GROUND MORAINE WITH
MOSTLY GRAVELLY TILL MOD TO FORMS LOW TO MEDIUM PLASTIC TILL WITH
SHALLOW PEAT AND PONDED SED WITHIN DEPRESSIONS
SD SAND DUNES ELONGATE FINE TO MEDIUM SAND RIDGES
ESCARPMENT
AD ABANDONED SPRANDLINES
AUP ALFES A FLOOD FONG DOSURFRENGES ON THE ACTIVE FLOODPLAIN
BD BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOIL
DF DRUMLIN D FORMS INCLUDING FLUTING AND GLACIAL GROOVES WITH
LINEAR D DGES
CVB FROZEN VALLEY SIDES AND ESCARPMENT SLOPES MIXED CLAY TO BOUL
DERS AND OR BEDROCK
PP ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT
K ICE CONTACT IN ORMIS GLACIOFLUVIAL DEPOSITS AND THERMOKARST DEPRES
SIONS
MC MELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER ILT
SU MUDFLOWS AND ELONGATE DETACHMENT SLIDES IN ICE RICH SILTS AND CLAY
PT PEAT PLATEAUS
SP MP MAINLY IN ICE RICH SILT
DP DRUMLIN FITS AND FATCHY DRIFT OVER AN UNEVEN BEDROCK SURFACE
BS BOGS SPECIALLY WITH WATER MEADOWS UP TO 15 FT OR PEAT OVER
PLATEAUS BUT GENERALLY 5 TO 10 FT DEEP
BB STRING BOG OR PATTERNED FEN GENERALLY 3 TO 12 FT OF PEAT GEN
ERALLY LESS THAN 5 FT
PT MIXED BOG AND FEN PEATS OR UNPATTERNED PEAT IN POST GLACIAL PO
NDED DEPRESSIONS PEAT IS COMMONLY 5 TO 15 FT DEEP IT OCCURS
WITH MARGINAL SILT VOLCANIC
SL SHALLOW WATER SILTY AND FATCHY DRIFT OVER ALLUVIATED SHEET WASH DRAINAGE
STORE WASH ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND SILT
TERRAIN SOME GRAVELLOBES AND THIN ORGANIC LAYERS GENERALLY
LESS THAN 5 FT THICK BUT MAY REACH 20 FT LOCALLY
WM WAVE MODIFIED TILL MAINLY A THIN SANDY TO GRAVELLY MANTLE OVER
VERY DENSE TILL

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
COMPRESSOR STATION WITH CHILLING
METER STATION
MATERIAL STOCKPILE SITE
PROPOSED PERMANENT WHARF
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
PROPOSED HIGHWAY
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOCATION STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.640 W.T GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 21585	19, 20, 21, 94, 95, 96
A 22420	29, 30, 31, 32

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

Nº	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

DATE	MARCH 3, 1975
SCALE	1 TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SURV ENGINEER	

TITLE ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

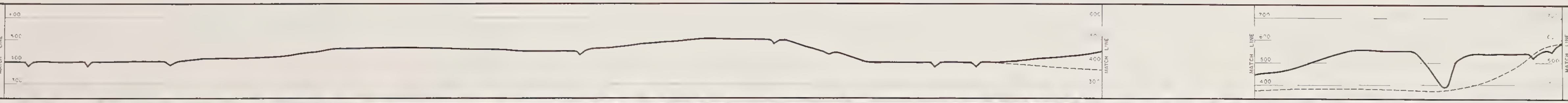
DRAWING/PLAN No. 0300-18

SHEET 18 OF 19

FILE No.

DRILL HOLE DATA

PROFILE — PIPELINE / ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES: MATCH LINE — ACCESS RD. TO BORROW AREA #319 — OFF R.O.W. ACCESS — MATCH LINE — MATCH LINE — OFF R.O.W. ACCESS — MATCH LINE

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 9

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel	O - Organic
L - Low plasticity	H - High plasticity
S - Sand	Pt - Peat
M Silt	P - Poorly graded
cbl(s) - cobble(s)	bldrs Boulders
C Clay	W Well graded

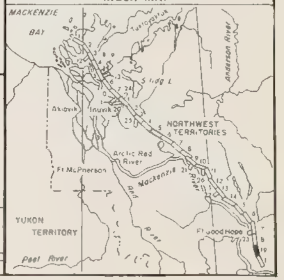
ABBREVIATIONS MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l. - little 10 to 20%
s. some 20 to 35%	t. - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms - Moss
c coarse	Lnsd - lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vrd varved

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	Ⓒ
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	—Ⓐ—
METER STATION		TEMPORARY ACCESS ROAD	--Ⓐ--
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF	Ⓦ	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF	▲	BORROW AREA	
CNT REPEATER STATION			

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.640 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 22420	30,31,237,238,239
A 22481	24,25
A 22389	43,44

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APP'D
	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES
MAINLINE ROUTE

0 — 0.5 — 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

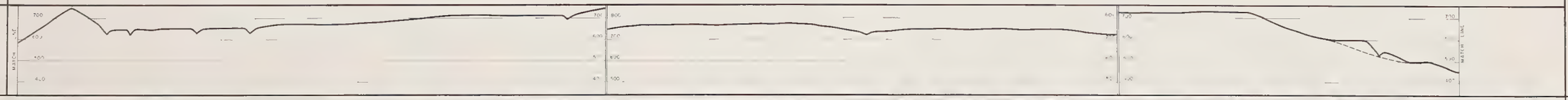
TITLE: ALIGNMENT SHEET FOR ANDERSON PLAIN PHYSIOGRAPHIC DIVISION

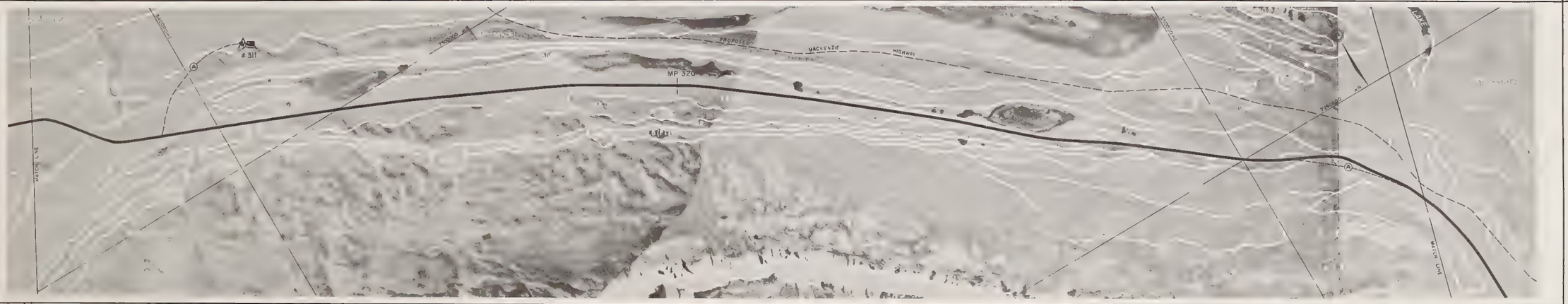
DRAWING/PLAN No. 0300-19 — SHEET 19 OF 19 — FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE ——
ACCESS ROAD ——





CONSTRUCTION DESIGN

DESIGN DATA	CONSTRUCTION CHAINAGE (miles)	REFERENCE DRAWING & NOTES			
	MP 340.0	MATCH LINE			
	MP 341.5	ACCESS ROAD TO BORROW AREA # 311			
	MP 325.6	OFF R/W ACCESS			
	MP 327.4	OFF R/W ACCESS			
	MP 327.7	MATCH LINE			

FOOTAGE THIS SHEET

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
S - Sand
M - Silt
cbl(s) - cobble(s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bld(s) - Boulder(s)
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
s - some 20 to 35%
l - little 10 to 20%
t - trace 1 to 10%

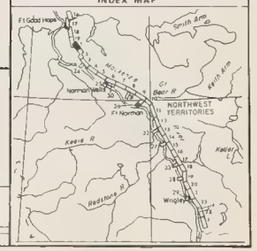
MISCELLANEOUS ABBREVIATIONS

Bdk - bedrock	G - Gross	Mx - Mixed
c - coarse	L - Local	n.g. - non-glacial
cov - cover	lyrd - layered	reg - regression
f - fine	m - medium	rvd - reversed

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
(INCLUDING FRANKLIN MOUNTAINS DIVISION)
GIBSON RIDGE PASS TO WILLOW LAKE RIVER AREA

AV10 ALLUVIAL FAN DEPOSIT: POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3 t3 2w3 & 3 3)
AV7 ACTIVE FLOOD PLAIN: EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 2 t3 3)
AV2 ALLUVIAL MEANDER PLAIN: ICE RICH ORGANIC SILT AND FINE SAND TOPSTRATUM, GENERALLY LESS THAN 5 FT THICK, OVER DISCONTINUOUS SAND AND/OR GRAVEL OVER TILL (S 1 2 t1 3 & 2 3)
BT BEDROCK TERRAIN: RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (S 2 2w3 t2 2w3 & 2 2w3)
AT COALESCING ALLUVIAL FANS: ICE RICH POORLY SORTED SILT SAND AND GRAVEL (S 2 2w3 t2 2w3 & 3 2w4)
DF DELTAIC FINE SAND PLAIN: ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS (S 2 2w3 t2 2w3 & 2w2 2w4)
I DELTAIC COARSE SAND PLAIN: FINE TO COARSE SAND WITH SOME OR A LITTLE SILT (S 1 2 t1 2 & 2 3)
E ESKER RIDGE: MAINLY COMPLEXLY STRATIFIED SAND AND/OR GRAVEL MINOR (S 1 2 t1 2)
FP FOSSIL FLOOD PLAIN: MOSTLY THIN ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGE BRAIDED RIVERS (S 1 2 t1 2w3 & 2 2w3)
G1 GLACIAL LAKE BASIN: BETTER DRAINED TYPE GENTLY SLOPING ICE RICH STRATA FROM MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH OR WITHOUT THERMOKARST FEATURES (S 2w3 3w4 2w3 4 & 3 4)
G GLACIAL LAKE BASIN: THERMOKARST TYPE POORLY DRAINED ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 3 4 t2 4)
HM HUMMOCKY MORAINE: LARGE HUMMOCKS AND SHORT RIDGES COMPRISING MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT COBBLES SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED DEPRESSIONS (S 3 4 t2 4)
MT MIDDLE TERRACE: UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DEPOSITIONAL TERRACES ADJACENT TO THE MACKENZIE RIVER INCLUDES SOME EROSIONAL TERRACES (S 1 2w3 t1 2w3 & 1 2w4)
K KAMES: INCLUDES KAMES KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH (S 1 3 t2 3)
KT KAME TERRACE: POORLY EXPRESSED TERRACES COMPOSED OF DRIFT POORLY SORTED SAND AND OR GRAVEL WITH COBBLES AND ABLE OFTEN WITH BOULDERS, TILL AND ICE LENSES (S 1 2 t1 3)
J LACUSTRINE BACKSWAMP: POSTGLACIAL PONDED LACUSTRINE DEPOSITS IN LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 3 FT THICK OVER TILL
DT DELTA TERRACE OR DELTA PLAIN: FAN LAKE BOTTOM OR DRAINED LAKE BOTTOM (S 1 2w3 t1 2w3 & 1 2w4)
M MORAINE: ROLLING OR HILLY GLACIOFLUVIAL MORAINE COMPOSED OF TILL (S 1w2 3 t2w3 3 & 2w3 4)
TL TALUS SLOPES: COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH AN ICE RICH MATRIX (S 4t3)
E ESCARPMENT (S DEPENDS UPON MAP UNIT)
AL ABANDONED STRANDLINES: FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1w2 2w3 t2w3 3)
B BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS (S 3 t2 & 4)
D DRUMLIN ZED AND FLUTED SURFACE: COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK (S 1w2 2w3 t2w3 3)
E-R ENDO NO VALLEY BANKS: LOCALLY CHANNELED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAM EROSION VARIABLE WATER ALTITUDES (S 1 2 t1 3)
WL WILDWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS: VARIABLE FINE TO COARSE MATERIALS (S 2w3 4 t3w3 4)
LS OLD AND RECENT SLOPE FAILURES: SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY (S 4w2 2 & 1w2 3)
RL ROCK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE NORMAN RANGE WHERE ICE AND SILT TO BOULDERS (S 1 t1 3)
D SAND DUNES: MAINLY FINE TO MEDIUM SAND (S 1 2 3)
PS SINKHOLES IN SOLUBLE BEDROCK (S 1 3 t1)
K THERMOKARST DEVELOPMENT: LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND/OR PEAT (S 2w3 4w4 & 2w3 2w4)
I GENERALLY 0 50 FT MODERATELY ICE RICH GLACIAL DRIFT MAINLY TILL, SOME SILTY LACUSTRINE DEPOSITS OVER BEDROCK (S 1w2 2w3 w4 & 2w3 2w4)
SH SHALLOW 5 TO 15 FT BUT GENERALLY LESS THAN 10 FT SURFICIAL VEneER NOT ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS OBSERVED FROM DRILL (S DEPENDS ON TERRAIN TYPE)
T TALUS AND DEPOSITIONAL COLLUVIUM: DEBRIS TYPES CHIEFLY OF A DISCONTINUOUS SURFICIAL LAYER 0 TO 15 FT CONSISTING OF ICE RICH ORGANIC SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEBBLES FINER ON OLD AND COARSER ON NEW (S 1 2 t1 3 & 2 3 t2 4)
B SPECKLED BOGS (ALSO CALLED PEAT PLATEAUS): 3 TO 15 FT OF PEAT (S 3 4 t3 4)
PT PATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 3 4 t3 4)

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOCATION STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.6 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHS

ROLL NO.	PHOTO NO
A22389	42, 43
A22387	2, 3, 4
A22 40	3, 4, 5

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1600 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
1	1 1 1974	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

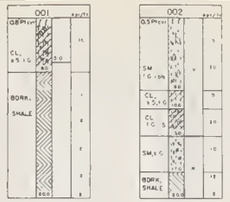
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0400-01 SHEET 01 OF 23 FILE No.

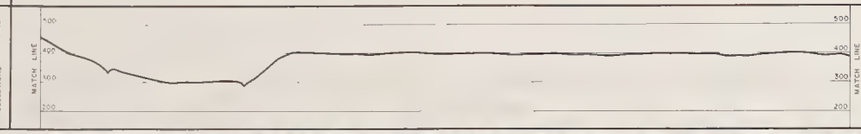
DRILL HOLE DATA

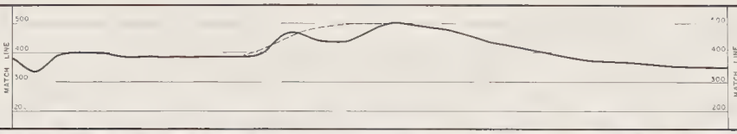


PROFILE

PIPELINE ——

ACCESS ROAD ——





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE		MATCH LINE	MATCH LINE	OFF R.O.W. ACCESS	OFF R.O.W. ACCESS BORROW AREA # 301	MATCH LINE	FOOTAGE THIS SHEET

DESIGN DATA

MP 327.7	MP 328.2	MP 332.9	MP 332.6	MP 333.3	MP 337.1	

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
cb(c) - cobble s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
s - some 20 to 35%
l - little 10 to 20%
t - trace 1 to 10%

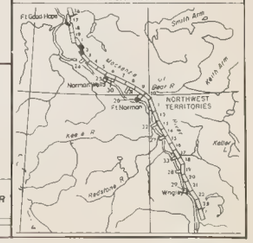
MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
c - coarse
cnv - convex
f - fine
G - Gloss
Lrnd - layered
m - medium
Mx - Moss
org - organic
veg - vegetation
wvd - varved

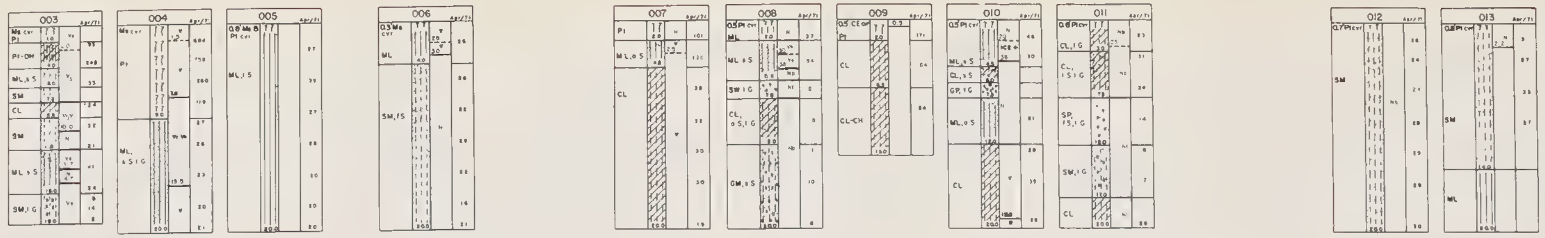
*TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
(INCLUDING FRANKLIN MOUNTAINS DIVISION,
GIBSON RIDGE PASS TO WILLOW LAKE R. VIA AREA.

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3 cl 2w3 & 3 3)
AFP ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 1 2 cl 2)
AMP ALLUVIAL MEANDER PLAIN ICE RICH OVERBANK SILT AND FINE SAND TOPSTRATUM GENERALLY LESS THAN 5 FT THICK OVER DISCONTINUOUS SAND AND GRAVEL OVER FINE SAND AND SILT (S 1 2 cl 3)
BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAINS (S 1 3 cl 2w3 & 1 2w4)
CF CONTINENTAL ALLUVIAL FAN ICE RICH POORLY SORTED ORGANIC CLAY SAND AND GRAVEL (S 2 2w3 cl 2w3 & 2 2w4)
DL DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS (S 3 2w3 cl 2w3 & 2w3 2w4)
D DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH ZONE OF ICE RICH SILT (S 2 2w3 cl 2w3 & 2 2w4)
E ESCARPMENT SEE MAINLY COMPLEX STRATIFIED SAND AND GRAVEL WITH SOME BOULDERS
FP FOSSIL FLOOD PLAIN MOSTLY THIN ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGE EXTINCT DEEP RIVERS (S 1 2 cl 2w3 & 2 2w3)
L S GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLY SLOPING ICE RICH STRATUM 10 MED UM TO 6 MILY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES (S 2w3 3w4 cl2w3 4 & 3 4)
L B GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND IN DEPRESSED THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 3 4 cl 4)
HM HUMMOCK MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF FINE TO SOME SAND AND OR SILT PEAT OVERLIES SHALLOW POND SILTY CLAY SEDIMENTS IN CLOSED KETTLE HOLES (S 2 2w3 cl 2w3 & 2 2w4)
HT HIGH TERRACE UP TO 15 FT 5 TO OVER 20 SOME HOUSE ON SANDY AND OR GRAVEL ON DEPOSITIONAL TERRACES NEARING NO THE MACKENZIE RIVER INCLUDES SOME EROSIONAL TERRACES (w2 1 2w3 & 1 2w4)
K KAMES INCLUDES KAMES KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH (S 1 2 cl 3)
KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF CHIEFLY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES AND MINOR OFTEN THIN BOULDERS FILL AND ICE LENSES (S 1 2 cl 3)
O OUTWASH AND OR DRIFT PLAIN LARGE FLAT BUT SLOPED DETTLENECKS AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 3 TO 15 FT THICK OVER TILL (S 2w3 cl2w3 3w4)
OA OUTWASH AND OR DRIFT PLAIN FAIRLY LARGE BODIES OF GRAVELLY SAND WITH SOME SILT (S 1 2w3 cl 2w3 & 2 2w4)
RMM RIDGE AND ANGULAR MORAINE ROLLING AND OR BOULDER MORAINE RAISED COMPOSED OF TILL (S 1w2 3 cl2w3 3 & 2w3 4)
TC BOULDER COBBLE COARSE GRAVEL AND ANGULAR BOULDERS SITS ON SILTY SAND OR MATRIX (S w1)
* ESCARPMENT S DEPENDS UPON MAP UNIT
A ABANDONED STRANDLINES FORMER LARGE LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1w2 2w3 cl2w3 3)
B BEADED DRAINAGE PATTERN ICE RICH SILTY SOILS (S 3 cl 3 & 4)
D DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK (S 1w2 2w3 cl2w3 3)
L S ERODING VALLEY BANKS LOCALLY CHANNELED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAM EROSION VARIABLE WATER ALS (S 1 2 3w4)
MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS (S 2w3 4 cl w3 4)
P OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY (S 1w2 2 & 1w2 3)
R RIDGES AND TERRACES ALONG THE WESTERN FRONT OF THE MOUNTAINS MAINLY MIXED ICE AND SILT TO BOULDERS (S 1 4 cl 3)
S SAND DUNES MAINLY FINE TO MEDIUM SAND (S 2 3)
S SINKHOLES IN SOLUBLE BEDROCK (S 1 w3)
T THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 2w3 cl w3 & 2w3 3w4)
C GENERALLY 0 TO 20 FT MOUSTHAN GENERALLY LESS THAN 10 FT ICE LACIAL DRIFT MAINLY TILL SOME SILTY LACUSTRINE DEPOSITS OVER IRREGULAR BEDROCK (S 1w2 2w3 cl w2 & 2w3 3w4)
L S SHALLOW 0 TO 15 FT BUT GENERALLY LESS THAN 10 FT ELEVATED VENEER NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS QUB 1 DIAGRAM DRI S DEPENDS ON TERRAIN TYPE
L FLOODWASH EFFECTS BOTH EROSIONAL THUNDERS GULLIES RILLS AND DEPOSITIONAL COLLUVIUM CONE SITS OVER FILL OF A DISCONTINUOUS SURFICIAL LAYER 0 TO 15 FT DEPOSITING OF FINE ICE RICH ORGANIC SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEAT OVER TILL GRAVEL AND COARSER ON FEED
BS BROKEN BOGS (ALSO CALLED PEAT PLATEAUS) 3 TO 15 FT OF PEAT (S 2 4 cl 4)
P UNPATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 3 4 cl 4)

INDEX MAP

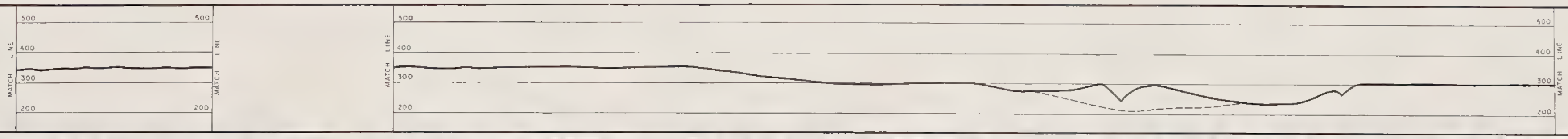

Fort Good Hope
Norman Wells
Fort Norman
Fort Simpson
Wrigley
Fort Wrigley
Fort Liard
NORTHWEST TERRITORIES
Yellowknife
Hay River
Fort Smith
Fort Resolution
Fort Rae
Rae
Lac La Martre
Fort Providence
Fort Rae
Fort Reliance
Fort Chipewyan
Fort Fitzgerald
Fort Smith
Fort Resolution

DRILL HOLE DATA



PROFILE

PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	CONSTRUCTION CHAINAGE
MATCH LINE	MP 337.6
C 07	MP 338.0
MATCH LINE	MP 338.9
MATCH LINE	MP 338.9
ACCESS ROAD TO WHARF AND STOCKPILE SITES	MP 343.1
SEE DRAWING OFF R.O.W. ACCESS	MP 343.2
ACCESS RD. TO BORROW AREA	MP 343.7
OFF R.O.W. ACCESS	MP 344.4
BORROW AREA 296	MP 345.7
MATCH LINE	MP 346.8

FOOTAGE THIS SHEET

DESIGN DATA

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel	O - Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobbles	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

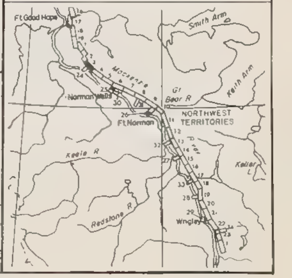
a and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss
c coarse	lnsd lensed	org - organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vrd - varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T.

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A22381	74,75,76
	139,140,141
A22388	36,37,38

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1900 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

Nº	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

UTM GRID ZONE 9

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

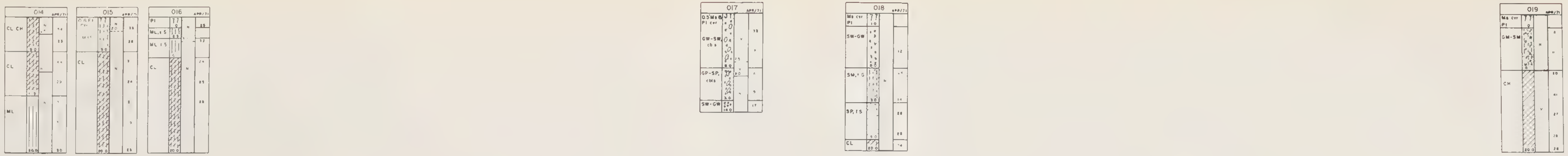
DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

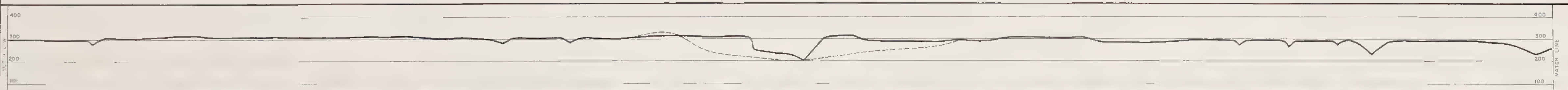
DRAWING/PLAN No. SHEET 3 OF 23 0400-03

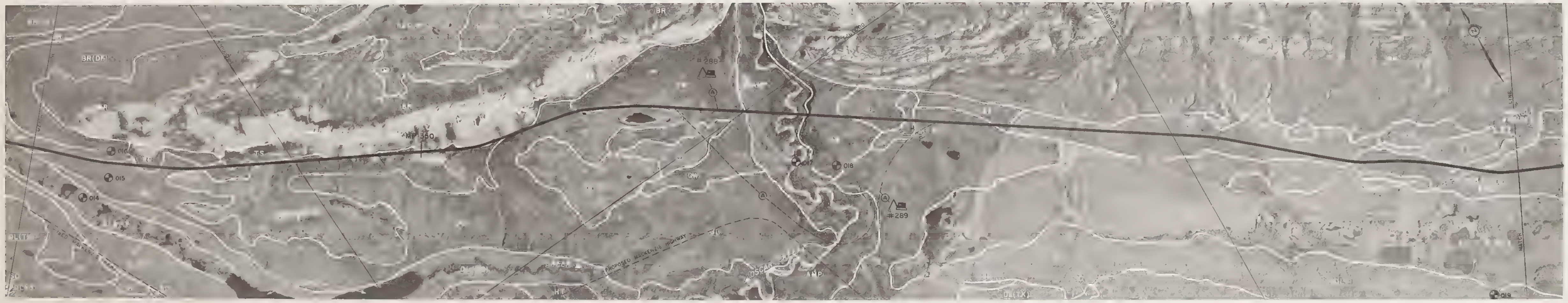
FILE No.

DRILL HOLE DATA



PROFILE — PIPELINE —— ACCESS ROAD - - -





CONSTRUCTION DESIGN

REFERENCE DRAWING

MATCH LINE | OFF R.O.W. ACCESS | ACCESS ROAD TO BORROW AREA #288 | OFF R.O.W. ACCESS / ACCESS ROAD TO BORROW AREA #289 | MATCH LINE

FOOTAGE THIS SHEET

CONSTRUCTION CHAINAGE (M. LES)

MP 346.8 | MP 352.4 | MP 352.7 | MP 354.7 | MP 358.6

DESIGN DATA

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

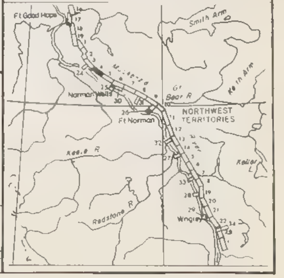
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s. some 20 to 35%	t. - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss
c course	Lmsd - lensed	org - organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vcd varved

INDEX MAP



UTM GRID ZONE 9

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER - 42" O.D x 0.640 W.T. GRADE 70
HEAVYWALL 42 O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A22388	37, 38, 39
A22474	90, 91, 92

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

Nº	DATE	REVISION	APP D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

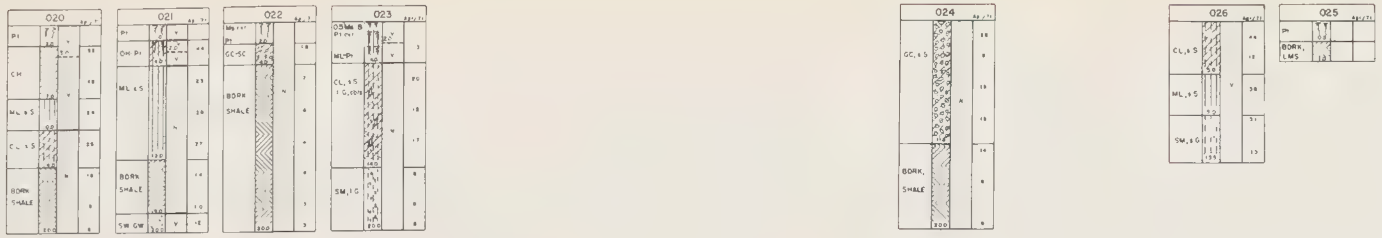
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

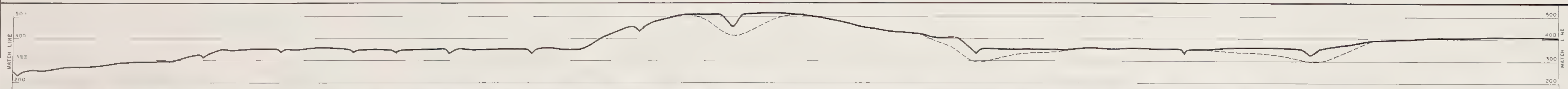
TITLE **ALIGNMENT SHEET FOR *EAST SIDE MACKENZIE RIVER* PHYSIOGRAPHIC DIVISION**

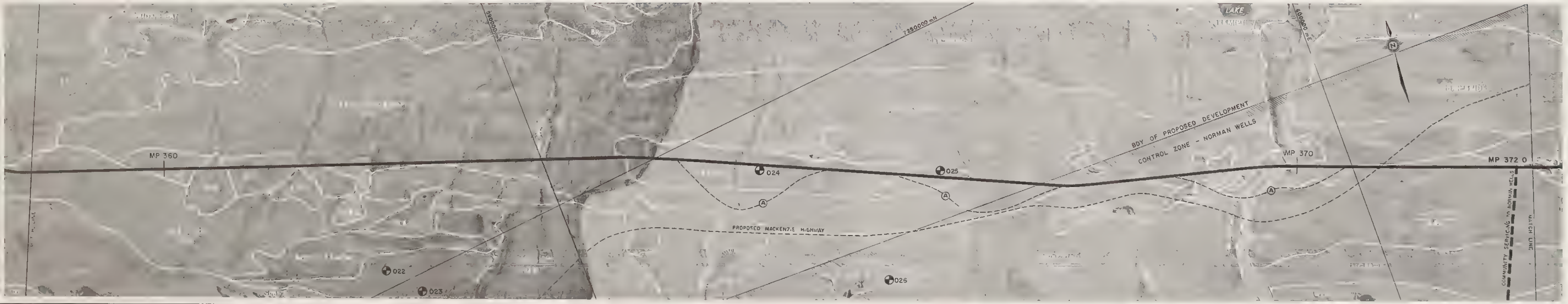
DRAWING/PLAN No 0400-04
SHEET 4 OF 23
FILE No

DRILL HOLE DATA



PROFILE — PIPELINE / ACCESS ROAD





REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel	O - Organic
L - Low plasticity	H - High plasticity
S - Sand	Pt - Peat
M - Silt	P - Poorly graded
cbl(s) - cobble(s)	bldrs - Boulders
C - Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%	l. - little 10 to 20%
s. - some 20 to 35%	t. - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock	G - Grass	Ms - Moss
c - coarse	Lnsd - lensed	org - organic
cvr - cover	lyrd - layered	veg - vegetation
f - fine	m - medium	vvd - varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND FOR EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	CONSTRUCTION CHAINAGE (miles)
MATCH LINE	MP 358.8
OFF R.O.W. ACCESS	MP 364.5
OFF R.O.W. ACCESS	MP 365.8
OFF R.O.W. ACCESS	MP 366.5
OFF R.O.W. ACCESS	MP 367.9
OFF R.O.W. ACCESS	MP 368.9
OFF R.O.W. ACCESS	MP 370.4
COMMUNITY SERVICING TO NORMAN WELLS	MP 372
MATCH LINE	MP 372

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 9

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER 42" O.D x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 22474	89, 90, 91
A 22367	150, 151, 152, 153

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1880 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

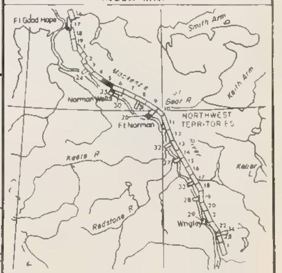
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

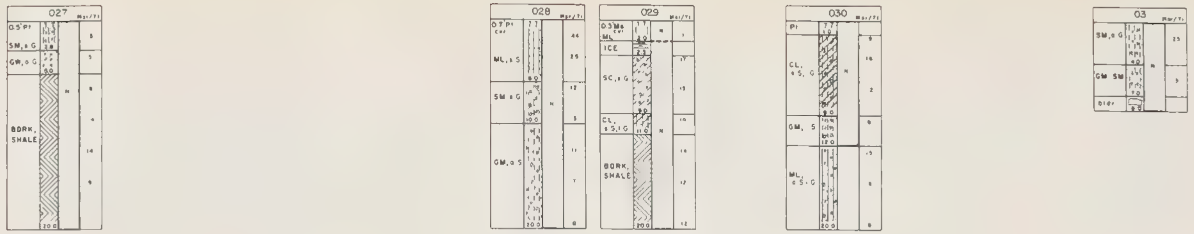
TITLE: ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. SHEET 5 OF 23 0400-05
FILE No.

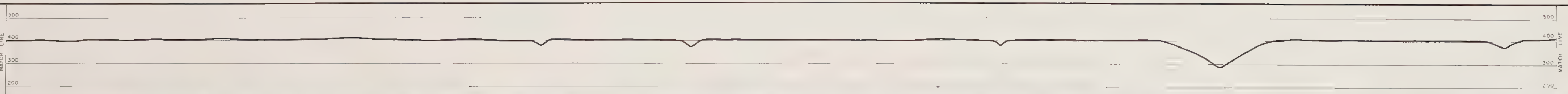
INDEX MAP

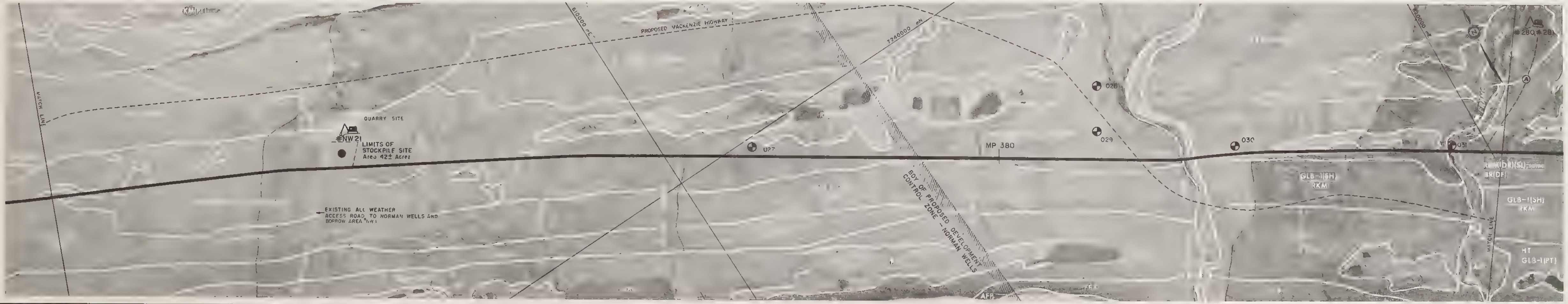


DRILL HOLE DATA



PROFILE
PIPELINE ——
ACCESS ROAD ——





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	ACCESS ROAD TO BORROW AREA NW 21 AND NW 1 (SEE DWG 0400-30)	ACCESS RD TO BORROW AREA NW 28	MATCH LINE
CONSTRUCTION CHAINAGE	MP 372.1	MP 374.0	MP 384.1	

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel	O - Organic
L - Low plasticity	H - High plasticity
S - Sand	Pt - Peat
M - Silt	P - Poorly graded
cbl(s) - cobble(s)	bldrs - Boulders
C - Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%	l - little 10 to 20%
s - some 20 to 35%	t - trace 1 to 10%

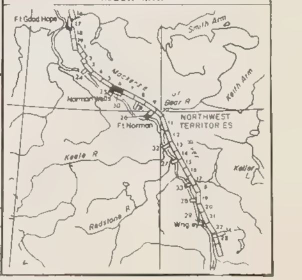
MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock	G - Grass	Ms - Moss
c - coarse	lnsd - lensed	org - organic
cvr - cover	lyrd - layered	veg - vegetation
f - fine	m - medium	vvd - varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
INCLUDING FRANKLIN MOUNTAINS DIVISION
GIBSON RIDGE PASS TO WILLOWLAKE RIVER AREA

- AFD ALLUVIAL FAN DEPOSIT - POORLY SORTED SILT, SAND, GRAVEL, SOME COBBLES AND BOULDERS
- AFP ACTIVE FLOOD PLAIN - EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS
- AMP ALLUVIAL MEANDER PLAIN - ICE RICH ORGANIC SILT AND/FINE SAND TOPSTRATUM, GENERALLY LESS THAN 5 FT THICK, OVER DISCONTINUOUS SAND AND OR GRAVEL OVER TILL
- BR BEDROCK TERRAIN - RIDGES AND NEARBY STEEP MOUNTAIN SLOPES
- CAF COALESCING ALLUVIAL FANS - ICE RICH POORLY SORTED ORGANIC SILT, SAND AND GRAVEL
- DL DELTAIC FINE SAND PLAIN - ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS
- DELTAIC COARSE SAND PLAIN - FINE TO COARSE SAND WITH SOME GRAVELS
- ESKER RIDGE - MAINLY COMPLEXLY STRATIFIED SAND AND/OR GRAVEL, MINOR SILT INCLUSIONS
- FFP FOSSIL FLOOD PLAIN - MOSTLY THIN ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES, ASSOCIATED WITH LARGER BRAIDED RIVERS
- GLB-1 GLACIAL LAKE BASIN - BETTER DRAINED TYPE - GENTLY SLOPING ICE RICH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH FEW THERMOKARST FEATURES
- GLB-2 GLACIAL LAKE BASIN - THERMOKARST TYPE - POORLY DRAINED ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER
- HM HUMMOCKY MORAINE - LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT, PEAT OVERLIES SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE OR DEPRESSIONS
- HIGH TERRACE - UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DEPOSITIONAL TERRACES ADJOINING THE MACKENZIE RIVER, INCLUDES SOME EROSIONAL TERRACES
- K KAMES - INCLUDES KAMES, KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH
- KT KAME TERRACE - POORLY EXPRESSED TERRACES COMPOSED OF DIRTY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES, VARIABLE, OFTEN WITH BOULDERS, TILL AND ICE LENSES
- LB LACUSTRINE BASINS - POSTGLACIAL PONDED LACUSTRINE DEPOSITS IN LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS, PEAT COVERED, COMPOSED OF ORGANIC AND INORGANIC CLAY, SILT AND FINE SAND BEDS, COMMONLY 2 TO 7 FT THICK OVER TILL
- OP OUTWASH AND OR OUTWASH DELTA PLAIN - TABULAR BODIES OF GRAVEL AND COARSE SAND
- RKM RIDGE AND KNOLL MORAINE - ROLLING AND OR RIDGED GROUND MORAINE COMPOSED OF TILL
- T TALUS SLOPES - COARSE GRAVEL AND ANGULAR BOULDERS, OFTEN WITH AN ICE RICH MATRIX
- ESCARPMENT - DEPENDS UPON MAP UNIT
- ABANDONED STRANDLINES - FORMER GLACIAL LAKE SHORELINES, VARIABLE FINE TO COARSE DEPOSITS
- BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS
- DRUMLINIZED AND FLUTED SURFACES - COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK
- EVB ERODING VALLEY BANKS - LOCALLY CHANNELLED BY SURFACE RUN-OFF AND OR UNDERCUT BY STREAM EROSION, VARIABLE MATERIALS
- MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS - VARIABLE FINE TO COARSE MATERIALS
- OLD AND RECENT SLOPE FAILURES - SLIDES AND SLUMPS, COMMONLY SAND OVER SILTY CLAY
- ROCK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE NORMAN RANGE, MIXED ICE AND SILT TO BOULDERS
- SAND DUNES - MAINLY FINE TO MEDIUM SAND
- SINKHOLES IN SOLUBLE BEDROCK
- TK THERMOKARST DEVELOPMENT - LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND/OR PEAT
- GENERALLY DISCONTINUOUS THIN (GENERALLY LESS THAN 10 FT) GLACIAL DRIFT (MAINLY TILL, SOME SILTY LACUSTRINE DEPOSITS) OVER IRREGULAR BEDROCK
- SHALLOW (5 TO 15 FT BUT GENERALLY LESS THAN 10 FT) SURFICIAL VENEER - NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS GLB-1(SH) - RKM (DR) - DEPENDS ON TERRAIN TYPE
- SLOPEWASH EFFECTS - BOTH EROSIONAL (NUMEROUS GULLIES, RILLS) AND DEPOSITIONAL (COLLUVIUM) - CONSISTS CHIEFLY OF A DISCONTINUOUS SURFICIAL LAYER (0 TO 15 FT) CONSISTING OF ICE RICH ORGANIC SILT AND SILTY SAND MATERIALS, WITH OR WITHOUT PEBBLES, FINER ON GLB AND COARSER ON RKM
- SPECKLED BOGS (ALSO CALLED PEAT PLATEAUS) - 3 TO 12 FT OF PEAT
- PT UNPATTERNED PEATLAND IN DEPRESSIONS, OFTEN EXTENSIVE - 3 TO 15 FT OF PEAT

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	▬	CONSTRUCTION CAMP (TEMPORARY)	Ⓒ
COMPRESSOR STATION	[C]	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	—Ⓐ—
METER STATION	[M]	TEMPORARY ACCESS ROAD	--Ⓐ--
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	------
PROPOSED PERMANENT WHARF	Ⓦ	EXISTING HIGHWAY	——
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF	▲	BORROW AREA	
CNT REPEATER STATION			

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A22387	5 , 53
A22387	171, 172, 173, 174
A22387	181, 182, 183

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

Nº	DATE	REVISION	APP'D
	APR 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

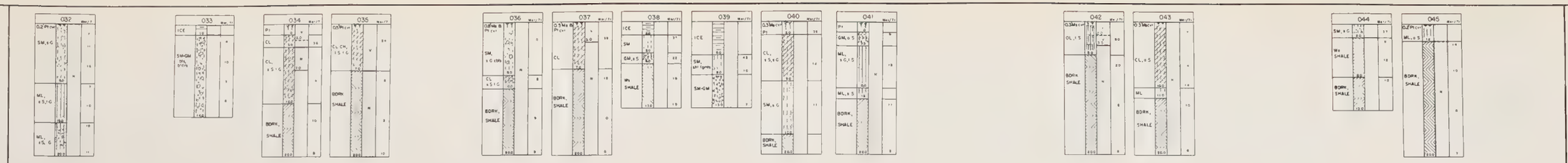
DATE	MAR 1975
SCALE	1" To 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No 0400-06 SHEET 6 OF 23

FILE No.

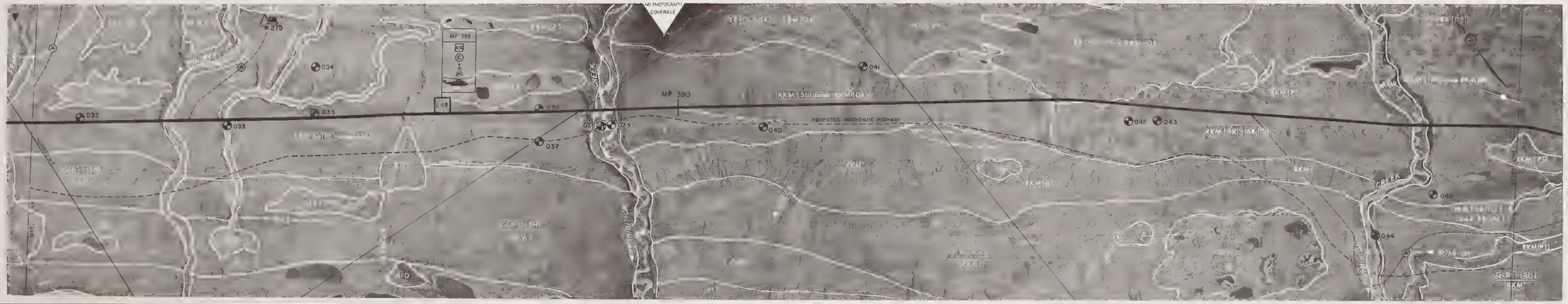
DRILL HOLE DATA



PROFILE

PIPELINE ——

ACCESS ROAD - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

CONSTRUCTION CHAINAGE

MP 384.5

MP 387.7 ACCESS RD TO Robinson ARR. @ 275

C-08

MP 388

OFF ROW ACCESS

MP 395.0

MATCH LINE

MP 397.4

DESIGN DATA

FOOTAGE THIS SHEET

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A22387	182, 183
A21526	66-67, 68
A22474	21,22,23,24

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO.	DATE	REVISION	APP'D
1	APR 2 1975	GENERAL	

UTM GRID ZONE 9

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 MILES

DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0400-07 SHEET 7 OF 23

FILE No.

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND FOR

EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION
INCLUDES PRANKLIN MOUNTAINS DIVISION
GIBSON RIDGE PASS TO WILLOWLAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3 st 2w3 B 3 3)

AFP ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 1 2 st 2 B 2 3)

AMP ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPSTRATUM GENERALLY LESS THAN 5FT IN OX OVER DISCONTINUOUS SAND AND OR GRAVEL OVER TILL (S 1 2 st 2 B 2 3)

[illegible] (S 1 2w3 st 2w3 B 1 2w4)

[illegible] LOBE NG ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL (S 2 2w3 st 2w3 B 1 2w4)

DL DELTAIC FLAT SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME [illegible] (S 2w3 st 2w3 B 2w2 2w4)

DLc DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND BEDS WITH ABUNDANT GRAVEL SIZES (S 2 2w3 st 2w3 B 2 3)

E ESKER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL MINOR SILT INCLUDED (S 1 2 st 3)

FP FOSSIL FLOOD PLAIN MOSTLY THIN ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL IN TO COBBLES ASSOCIATED WITH LARGER BRAIDED RIVERS (S 1 2 st 2w3 B 2 2w3)

GLB1 GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLY SLOPING OR RICH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES (S 2w3 3w4 2w3 B 2 3)

GLB2 GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 13 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 2 4 st 3)

HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OCCURS IN SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLES (S 1 2 st 3)

HT HIGH TERRACE UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND GRAVEL INCLUDES TRANSITIONAL [illegible] MAC KENZIE RIVER INCLUDES SOME EROSIONAL TERRACES (S 1 2w3 st 2w3 B 1 2w4)

K KAMES INCLUDES KAMES, KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH (S 1 2 st 3)

KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF DIR [illegible] OFTEN WITH BOULDERS TILL AND ICE LENSES (S 1 3 st 3)

LB LACUSTRINE BASINS POSTGLACIAL PONDED LACUSTRINE DEPOSITS IN LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 3 FT TO 30 OVER TILL

OFD OUTWASH AND OR OUTWASH DELTA PLAIN TABULAR BODIES OF GRAVEL AND OR SAND WITH SOME SILT (S 1 2w3 st 2w3 B 2 2w3)

RVM RIDGE AND MOUNTAINOUS MORAINE ROLLING AND TRENCHED ORIGINAL MORAINE COMPOSED OF TILL (S 1w2 3 2w3 3 B 2w3 4)

TS [illegible]

EQUIPMENT 3 DEPENDS UPON MAP UNIT

AS ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1w2 2w3 4w3 3)

BD BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS (S 2 3 B 3)

DR DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK (S 1w2 2w3 4w3 3)

Ev6 ERODING VALLEY BANKS LOCALLY CHANNELED BY SURFACE RUN OFF AND OR NORTHOUT BY STREAMBEDS VARIABLE MATERIALS (S 4 3 3w4)

MC [illegible]

P [illegible] INCLUDES SLOPE FAILURES SLIDES AND SLUMPS COMMONLY [illegible]

Rg ROCK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE [illegible]

SA [illegible]

SD [illegible]

Sn THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 2w3 4w4 B 2w3 3w4)

[illegible]

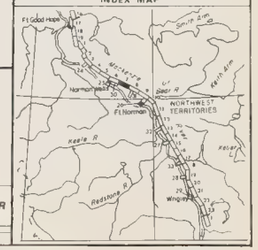
Sm SHALLOW (5 TO 15 FT BUT GENERALLY LESS THAN 10FT) SURFICIAL [illegible] IRREGULAR BEDROCK (S 1w2 2w3 4w3 B 2w3 3w4)

[illegible]

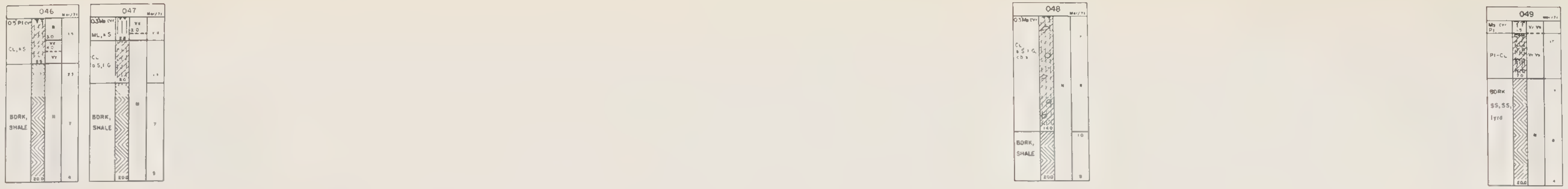
Sp SHALLOW PEAT AND OR PEAT OVER SILT [illegible]

PT UNATTERNED PEATLAND WIDEPREADING OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 3 4 st 4)

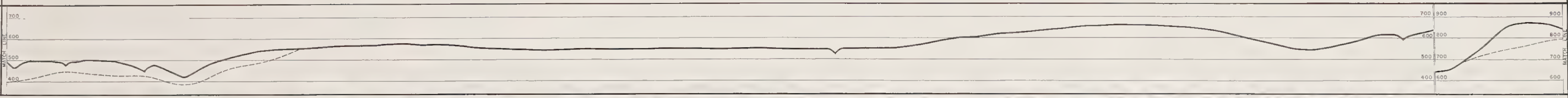
INDEX MAP



DRILL HOLE DATA



PROFILE — PIPELINE / ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P - Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss
c course	Lmd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vrd varied

CONSTRUCTION DESIGN

REFERENCE DRAWINGS & NOTES	CONSTRUCTION CHAINAGE
MATCH LINE	MP 397.4
OFF R.O.W. ACCESS	MP 400.3
ACCESS ROAD TO BORROW AREA SEE DWG 0400-31	MP 404.0
OFF R.O.W. ACCESS ACCESS ROAD TO BORROW AREA FN 29	MP 410.4
MATCH LINE	MP 410.5

FOOTAGE IN SHEET

DESIGN DATA

UTM GRID ZONE 9 & 10

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21526	67,68,69,70 86,87,88

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

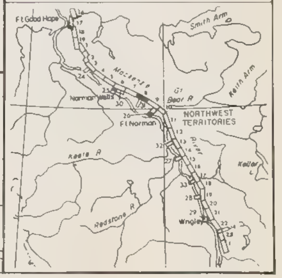
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

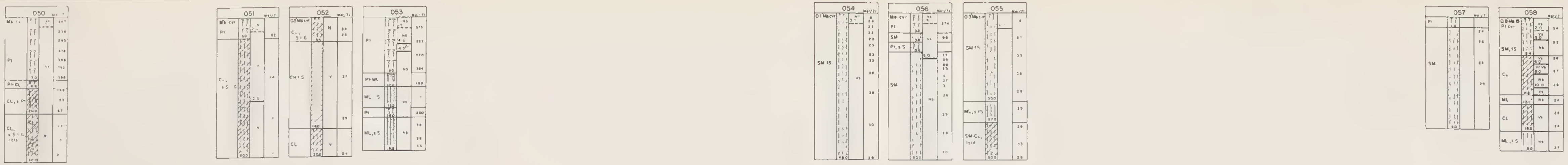
TITLE **ALIGNMENT SHEET FOR *EAST SIDE MACKENZIE RIVER* PHYSIOGRAPHIC DIVISION**

DRAWING/PLAN No. 0400-08
SHEET 8 OF 23
FILE No.

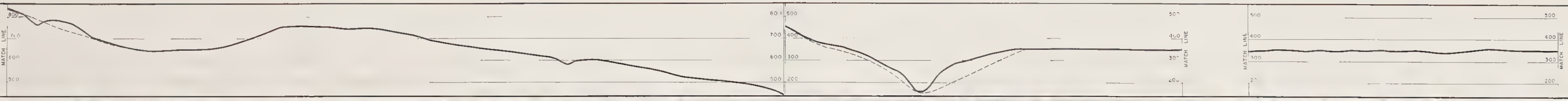
INDEX MAP



DRILL HOLE DATA



PROFILE — PIPELINE / ACCESS ROAD



REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%	l - little 10 to 20%
s - some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss
c coarse	lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vrd varved

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	CHAINAGE
MATCH LINE	MP 416.9
OFF R.O.W. ACCESS	MP 417.0
OFF R.O.W. ACCESS	MP 417.2
BORROW AREA #FN 10	MP 417.5
PEAT BEAR RIVER X-ING	MP 417.8
BORROW AREA #FN 13	MP 418.0
OFF R.O.W. ACCESS / COMMUNITY SERVICING TO FORT NORMAN SEE DRAWING 0400-26 / ACCESS ROAD SEE DRAWING 0400-26	MP 419.5
MATCH LINE	MP 420.1
MATCH LINE	MP 420
MATCH LINE	MP 4

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 10

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	(C)
COMPRESSOR STATION	[C]	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	—(A)—
METER STATION	[M]	TEMPORARY ACCESS ROAD	--(A)--
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF	(W)	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF	▲	BORROW AREA	
CNT REPEATER STATION			

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPH

ROLL NO	PHOTO NO
A21526	102, 103, 104, 105, 06

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
	MAR 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

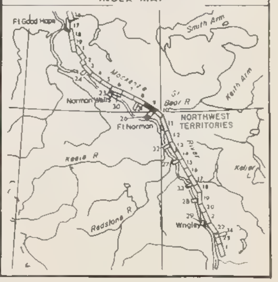
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
ENGINEER	

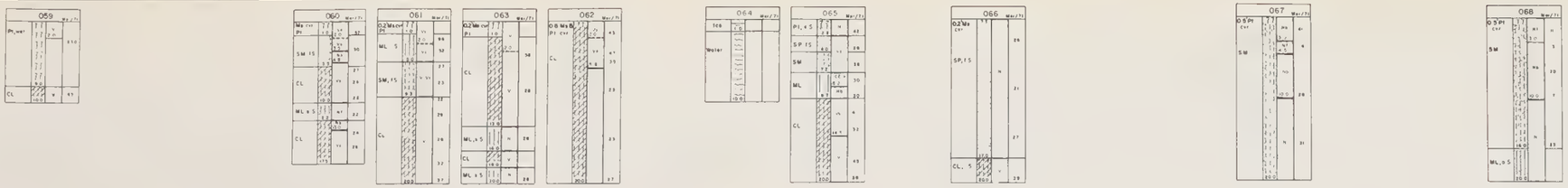
TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. SHEET 9 OF 23 0400-09 FILE No.

INDEX MAP

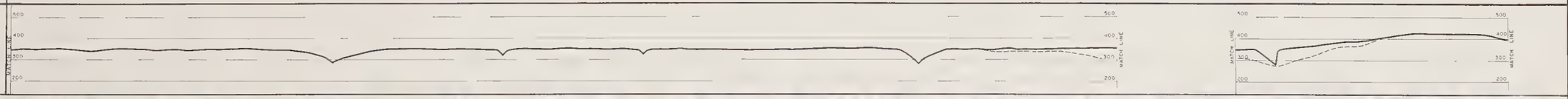


DRILL HOLE DATA



PROFILE

PIPELINE ——— ACCESS ROAD - - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

DESIGN DATA

UTM GRID ZONE 10

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
S - Sand
M - Silt
Cbl(s) - cobble(s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
Bldr(s) - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

e - trace 1 to 10%

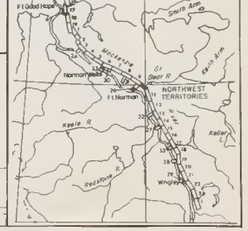
MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
O - Grass
Mx - Moss
veg - vegetation

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
INCLUDES FRAMES, MOUNTAINS DIVISION
GIBSON RIDGE PASS TO WILLOWLAKE RIVER AREA

ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3 H 2w3 B 2 3)
ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVELS WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 1 3 H P)
ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPOGRAPHY GENERALLY LESS THAN 5 FT THICK OVER 2 300 THICKNESS SAND AND GRAVEL COVER WELL DRAINED SAND AND GRAVEL (S 1 3 H P)
BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAINS (S 1 2 3 H 2w3 B 2 3 2w4)
COMPOSITE ALLUVIAL FAN ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL (S 2 2w3 U2 2w3 B 2 2w4)
DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS (S 2 2w3 U2 2w3 B 2w3 2w4)
DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL BODIES (S 1 2 3 H 2w3 B 2 3)
MORAINE MIXED MORAINE COMPLEXLY STRATIFIED SAND AND GRAVEL MINOR SILT INCLUSIONS (S 1 2 3 H 2 3)
FOSSIL FLOOD PLAIN MOSTLY THICK ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGE ERRATIC BOULDERS (S 1 2 3 H 2w3 B 2 2w3)
GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES (S 2w3 3w4 U2w3 B 3 H)
GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH SILTY CLAY WITH 10 TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 3 4 U 6)
HUMMOCKY MORAINE LARGE HUMMOCKS AND SHALLOW PONDS COMPOSED MOSTLY OF TILL WITH SOME SAND AND GRAVEL (S 1 2 3 H 2w3)
SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED STATIC BASINS (S 2w3 3w4 U2 2w3 B 2 3)
HIGH TERRACE UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DEPOSITIONAL TERRACES ADJOINING THE MACKENZIE RIVER INCLUDES SOME EROSIONAL TERRACES (S 1 2w3 U1 2w3 B 1 2w3)
KAMES INCLUDES KAMES KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE DISTRIBUTION DEPTH (S 1 3 U 3)
KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF GRAVELLY POORLY SORTED SAND AND GRAVEL WITH COBBLES (S 1 3 H 2)
OFFSHORE BOULDERS POSTGLACIAL SEDIMENTS (S 1 3 H 2)
LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST OPENS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 7 FT THICK OVER 1 3 (S 2w3 U2w3 3w4)
OUTWASH AND OR OUTWASH DELTA PLAIN FAIR LAYERED SILTS OF GRAVEL AND OR SAND WITH SOME SILT (S 1 2w3 U1 2w3 B 2 3 2w3)
RIDGE AND KNOB MORAINE ROLLING AND HILLY TERRAIN (S 1 2w3 U 2w3 B 2w3 U 3)
RAINE COMPOSED OF TILL (S 1 2w3 3 U 2 3 B 2w3 U 3)
ESKER SINUOUS RIDGE OF GRAVEL AND ANGULAR BOULDERS OFTEN WITH ABUNDANT WATER (S 2 3)
ESCARPMENT (REFERENCE UPON MAP)
ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1w2 2w3 U2w3 3)
BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS (S 3 U 6 B)
DRUMLINIZED AND FLUTED SURFACE COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK (S 1w2 2w3 U2w3 3)
ERODED VALLEY BANKS LOCALLY CHANNELED BY SURFACE RUNOFF AND OR LARGE ROUTE BY STREAM EROSION VARIABLE MATERIALS (S U 2w3)
WELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE WATER ALS (S 2w3 4 U2 4)
OLD AND RECENT SLIDE FAILURES SLIDES AND SLUMPS ON RIVER BANKS (S U2w3 2 B 1w2 3)
SOIL CREEP SOIL GLIDES ALONG THE WESTERN FRONT OF THE NORTH NAHANI RANGE MIXED ICE AND SILT TO BOULDERS (S 1w2 3)
SAND DUNES MAINLY FINE TO MEDIUM SAND (S U 3)
SINKHOLES IN SOLUBLE BEDROCK (S 1 3)
THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 2w3 3w4 B 2w3 3w4)
GENERALLY DISCONTINUOUS THIN GENERALLY LESS THAN 10 FT GLACIAL DRIFT MAINLY TILL SOME SILTY LACUSTRINE DEPOSITS OVER IRREGULAR BEDROCK (S 1w2 2w3 U2w3 B 2w3 3w4)
SHALLOW (5 TO 15 FT BUT GENERALLY LESS THAN 10 FT) SURFICIAL MINER NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS SUB 1 2w3 (PEM (DP) S DEPENDS ON TERRAIN TYPE
SUBMASH EFFECTS BOTH EROSIONAL NUMEROUS GULLIES MOSTLY AND DEPOSITIONAL SOME SILT FAN DEPOSITS ON LOWER SLOPES
SHALLOW (SURFICIAL LAYER 10 TO 15 FT) CONSISTING OF OLD ORGANIC SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEBBLES FINER ON OLD AND COARSER ON NEW (S U 2w4 B 2w3 3w4)
SPECKLED BOGS (ALSO CALLED PEAT PLATEAUS) 3 TO 10 FT OF PEAT (S 2 3 4 U 6)
UNPATTERNED PEATLAND NO EXPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 2 4 U 6)

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS WATER PL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42 O.D. x 0.885 W.T. GRADE 70

AERIAL PHOTO LIBRARY

ROLL NO.	PHOTO NO
A21526	101, 102, 103
A21527	75, 76

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APP'D
		GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

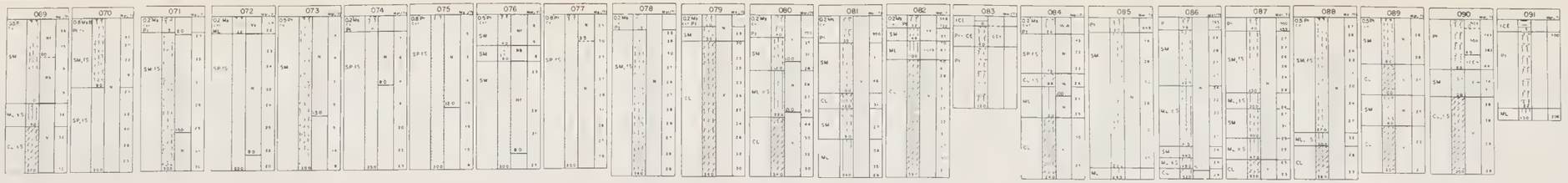
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
DPW ENGINEER	

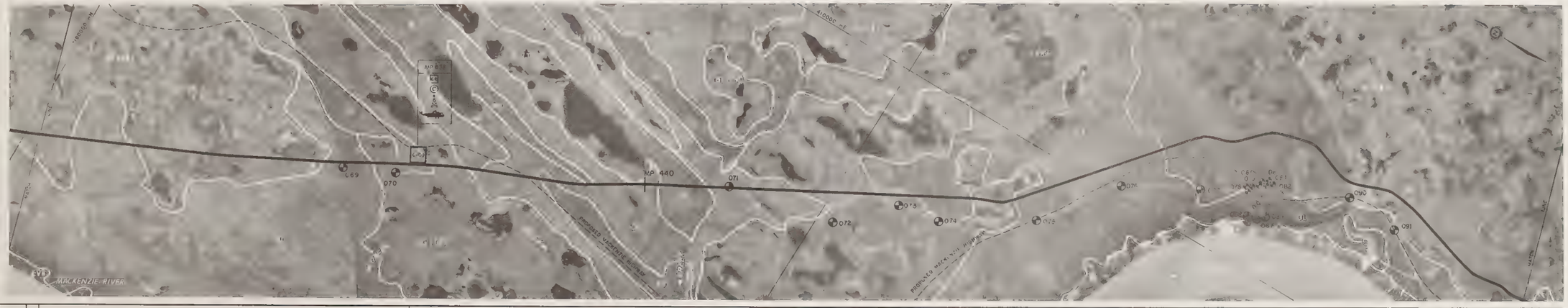
TITLE **ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION**

DRAWING PLAN NO. 0400-10
SHEET 10 OF 23
FILE NO.

DRILL HOLE DATA



PROFILE



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

DESIGN DATA

FOOTAGE THIS SHEET

MATCH LINE

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
Rb r rubble/rock — bldr Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50% — 1 - little 10 to 20%
s - some 20 to 35% — t - trace 1 to 10%

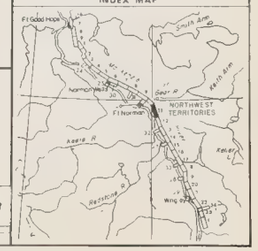
MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — G Grass — Mo Moss
c coarse — Lmd limed — org organic
cov cover — lyrd layered — veg vegetation
f fine — m medium — vrd varied

TERRAIN MAPPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
INCLUDE NG FRANKLIN MOUNTAINS DIVISION
GIBSON R IDGE PASS TO W LUDWLAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL BOWL DERS COBBLES AND BOULDERS (S 1 2 t1 2w2 b 2 3)
AFP ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRA EL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 2 t1 3)
AMP AL LUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPPER NATURE GENERALLY LESS THAN 8 FT TH CK OVER OLDER WING OUS SAND AND OR GRAVEL OVER TILL (S 1 2 t1 2 b 2 3)
BR BEDROCK TERRAIN R DGES AND NEARBY STEEP MOUNTAIN SLOPES (S 2 t1 3 b 2 3 t 2w)
CF COALESCING ALLUVIAL FANS CE R CH POORLY SORTED DRIBBLE SIL T SAND AND GRAVEL (S 1 2w3 b2 2w3 b 2 3 t 2w)
DF DELTA FE ND SAND PLAIN ICE RICH FINE SAND AND SILT OVER SILTY CLAY LAYERS (S 2 t1 2 b2 2w3 b 2w3 2w3)
DP DELTA FE DDAMIC SAND PLA N FINE TO COARSE SAND OVER SOME OR A L (S 1 2 t1 2 b 2 3)
E ESKER R DGE MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL WITH MINOR SILT INCLUSIONS (S 1 2 t1 3)
FFP FOSSIL F LOOD PLA N MOSTLY THIN ICE RICH SILTY TOPSTRAT IMPOVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGE R BRAIDED RIVERS (S 1 2 t1 2w3 b 2 2w3)
G GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLY SLOPING CE R CH STRATIFIED MED UM TO HIGHLY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES (S 2w2 3w1 3w2 4 b 3 4)
GLB GLACIAL LAKE BASIN THERMOKARST TYPE POOR L DRAINED CE R CH MEDIUM TO H GHLY PLASTIC SILTY CLAY W TH UP TO 10 10 FT OF PEAT AND M DESPREAD THERMOKARST FEATURES CONTAIN NG STAG NANT WATER (S 3 4 t1 4)
HM H MMOCKY MORAINE LARGE H MMOCKS AND SHORT RIDGES COMP OSED MOSTLY OF T LL WITH TOWE SAND AND OR SILT PEAT OVERLYS SHALLOW MIXED SILTY CLAY SED MENTS IN CLOSED KETTLEHOLE DE PRESSIONS (S 2 3 t1 4)
HT HIGH TERRACE UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DEPOSITIONAL TERRACES ADJOINING THE MAC KENZIE RIVER INCLUDES SOME EROSIONAL TERRACES (S 1 2w2 t1 2w3 b 1 2w3)
K KAMES INCLUDES KAMES KAME DELTAS AND KAME TERRACES CO MPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL W TH VAR ABLE OVERBURDEN DEPTH (S 1 2 t1 3)
KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF B L TY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS TILL AND ICE LENSES (S 1 2 t1 3)
L MINIMUM LAKE BASINS POST GLACIAL MOSTLY GLACUSTRINE DEPOSITS LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPR ESSIONS PEAT COVERED COMPOSED OF ORGANIC AND NORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 7 FT THICK OVER TILL
N OUTWASH AND OR FLUVIOGLACIAL PLAIN FAIRLY FLAT BOULDER GRAV EL AND OR SAND W TH SOME SILT (S 1 2w3 t1 2w3 b 2 2w3)
RM RIDGE AND HILLS MORAINE ROLLING AND OR RIDGED GROUND MO RAINE COMPOSED OF TILL (S 1w2 3 t2w3 3 b 2w3 4)
T TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN W TH AN ICE RICH MATRIX (S 4)
EGP ESCARPMENT S DEPENDS UPON MAP LIMIT
B ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VAR ABLE FINE TO COARSE DEPOSITS (S 1w2 2w3 2w3 3)
S BEADED DRAINAGE PATTERN IN CE RICH SILTY SOILS (S 3 t3 4)
FU DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK (S 1w2 2w3 w3 3)
E EROD NG VALLEY BANKS LOCALLY CHANNELLED BY SURFACE RUN OFF AND OR LADE ROUT BY STREAM EROSION VAR ABLE WATER ALS (S 1 2 3)
MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHAN NELS VAR ABLE FINE TO COARSE MATERIAL (S 1 2w2 t1 2w3 4)
SLD SLID AND RECENT SLUMPE FAILURES SLIDES AND SLUMPS COMMONLY ON CLAY SOILS (S 1w2 2 & t4 2)
FR FRONT RANGE GLACIERS ALONG THE WESTERN FRONT OF THE MOUN TAIN RANGE W REE DE AND SILT TO BOULDERS (S 1 t1 3)
SD SAND DUNES MAINLY FINE TO MED UM SAND (S 2 3)
SH SINKHOLES IN SOLUBLE BEDROCK (S 1 t3)
TH THERMOKARST DEVE LOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 2w3 t2w1 & 2w3 3w4)
A GENERALLY S SCONT NUOUS TH N GENERALLY LESS THAN 10 FT (G) ACIAL OR FT IMMAILY TILL, SOME SILTY LACUSTRINE DEPOSITS OVER IRREGULAR BEDROCK (S 1w2 2w3 2w3 b 2w3 3w4)
AR SHALLOW (5 TO 15 FT BUT GENERALLY LESS THAN 10 FT) SURFICIAL VE NEER NOTE ASSOCIATED PARENT TERRA N TYPES TO DETERMINE STR ATIGRAPHY AS OUR (SRH (RM (DR) S DEPENDS ON TERRAIN TYPE
L LOWWATER EFFECTS BOTH EROSIONAL NUMEROUS GULLIES IN LLS AND DEPOSITIONAL (COLLUVIUM) CONSISTS OF LY OF A DISCONTIN UOUS SURFICIAL LAYER (0 TO 15 FT) CONSISTING OF ICE R CH ORGANIC SILT AND SILTY SAND WATER WALLS WITH OR WITHOUT PEBBLES FINER ON CLB AND COARSER ON RIDGE (S 2w3 b 2w3 3w4)
PC SPECIALLED BOGS (ALSO CALLED PEAT PLATEAUS) 3 TO 10 FT OF PEAT (S 3 4 t1 4)
PF PATTERNED PEATLAND (NOBPEAT) ONE OFTEN EXTENSIVE 3 TO 10 FT OF PEAT (S 3 4 t1 4)

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2 6 FEET
4. TEMPORARY ACCESS ROAD FOR PIPE LINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O D x 0 540 W T GRADE 70
HEAVYWALL 42" O D x 0 720 W T GRADE 70
EXTRA HEAVYWALL - 42" O.D x 0 865 W T GRADE 70

ROLL NO	PHOTO NO
A21527	75, 76
A21527	30, 31, 32

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO.	DATE	REVISION	APP'D
		GENERAL	

FOOTHILLS PIPE LINES LTD.

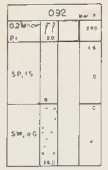
NORTHWEST TERRITORIES

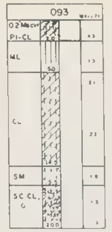
MAINLINE ROUTE

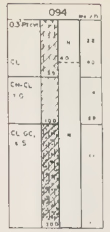
0 0.5 1 Mile

DATE	MARCH 5, 1975	TITLE	ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION
SCALE	1" TO 2000'		
DRAWN BY			
CHECKED BY			
APPROVED BY		DRAWING/PLAN No.	0400-11
SUPV. ENGINEER		SHEET 11 OF 23	FILE N.

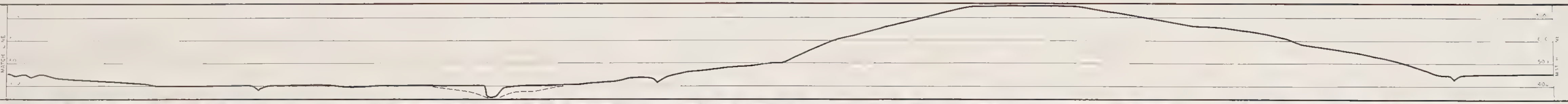
DRILL HOLE DATA

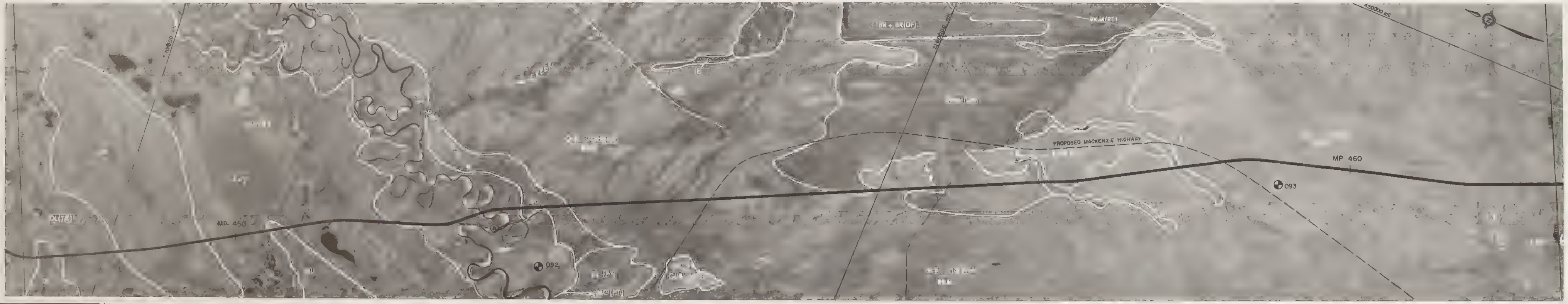






PROFILE
PIPELINE
ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE DRAWING

OFF R.O.W. ACCESS ROAD

OFF ROW ACCESS ROAD

MATCH LINE

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 10

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C - Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss
c coarse	Lnsd lensed	org organic
	lyrd layered	veg vegetation
f fine	m medium	vrvd varved

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A21527	26, 27
A21526	179, 180
	229, 230, 231

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

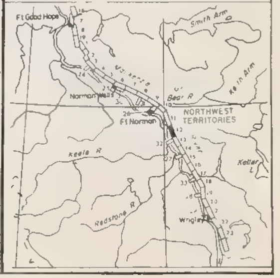
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

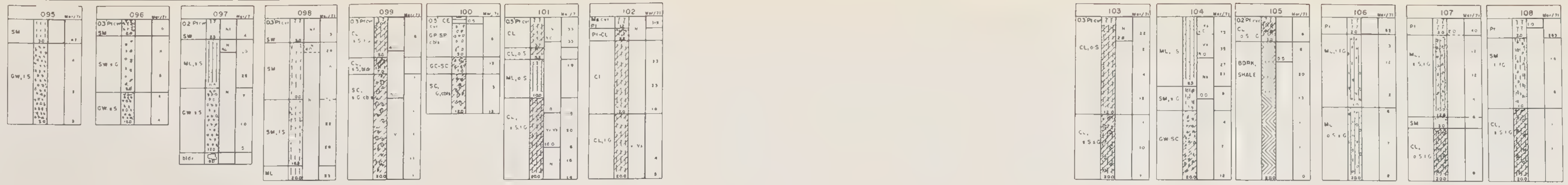
TITLE: ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0400-12
SHEET 12 OF 23
FILE No

INDEX MAP

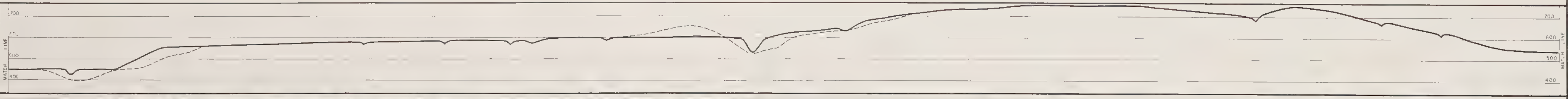


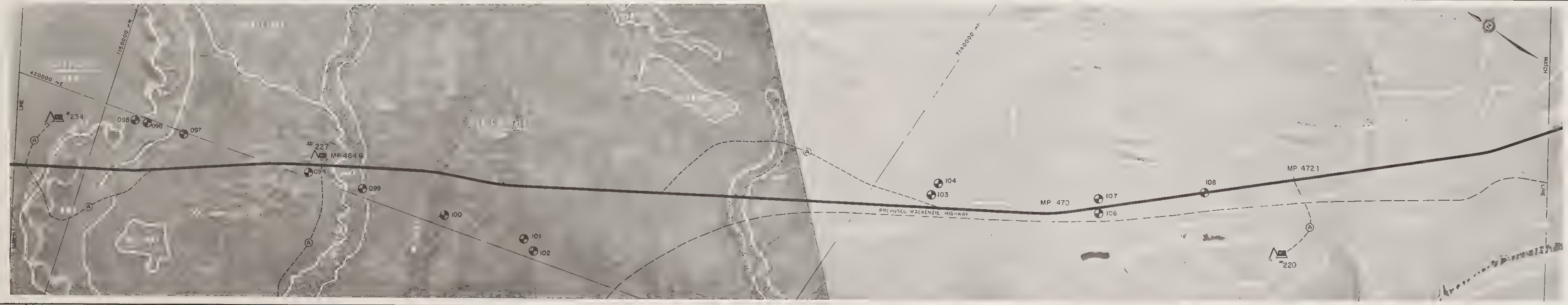
DRILL HOLE DATA



PROFILE

PIPELINE ———
ACCESS ROAD - - - -





REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel	O - Organic
L - Low plasticity	H - High plasticity
S - Sand	Pt - Peat
M - Silt	P - Poorly graded
cbl(s) - cobble(s)	bldrs - Boulders
C - Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

s - and 35 to 50%	l - little 10 to 20%
s - some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock	G - Grass	Ms - Moss
c - course	Lnsd - lensed	org - organic
cvr - cover	lyrd - layered	veg - vegetation
f - fine	m - medium	vvd - varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND FOR EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION (INCLUDING FRANKLIN MOUNTAINS DIVISION) GIBSON RIDGE PASS TO WILLOWLAKE RIVER AREA

- AFD — ALLUVIAL FAN DEPOSIT: POORLY SORTED SILT, SAND, GRAVEL, SOME COBBLES AND BOULDERS
- AFP — ACTIVE FLOOD PLAIN: EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS
- AMP — ALLUVIAL MEANDER PLAIN: ICE RICH ORGANIC SILT AND FINE SAND TOPSTRATUM GENERALLY LESS THAN 5 FT. THICK OVER DISCONTINUOUS SAND AND OR GRAVEL OVER TILL
- BP — BEDROCK TERRAIN: RIDGES AND NEARBY STEEP MOUNTAIN SLOPES
- CAF — COALESCING ALLUVIAL FANS: ICE RICH POORLY SORTED ORGANIC SILT, SAND AND GRAVEL
- DL — DELTAIC FINE SAND PLAIN: ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS
- DLc — DELTAIC COARSE SAND PLAIN: FINE TO COARSE SAND WITH SOME GRAVEL
- ESKER RIDGE: MAINLY COMPLEXLY STRATIFIED SAND AND/OR GRAVEL, MINOR SILT INCLUSIONS
- F — FOSSIL FLOOD PLAIN: MOSTLY THIN ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGER BRAIDED RIVERS
- B — GLACIAL LAKE BASIN: BETTER DRAINED TYPE, GENTLY SLOPING ICE RICH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES
- GLACIAL LAKE BASIN: THERMOKARST TYPE, POORLY DRAINED ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT. OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER
- HM — HUMMOCKY MORAINE: LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT. PEAT OVERLIES SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS
- HIGH TERRACE: UP TO 15 FT. SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DEPOSITIONAL TERRACES ADJOINING THE MACKENZIE RIVER. INCLUDES SOME EROSIONAL TERRACES
- K — KAMES: INCLUDES KAMES, KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH
- KT — KAME TERRACE: POORLY EXPRESSED TERRACES COMPOSED OF DIRTY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES, VARIABLE, OFTEN WITH BOULDERS, TILL AND ICE LENSES
- LACUSTRINE BASINS: POSTGLACIAL PONDED LACUSTRINE DEPOSITS IN LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS, PEAT COVERED, COMPOSED OF ORGANIC AND INORGANIC CLAY, SILT AND FINE SAND BEDS, COMMONLY 2 TO 7 FT. THICK OVER TILL
- OUTWASH AND OR OUTWASH DELTA PLAIN: TABULAR BODIES OF GRAVEL AND OR SAND WITH SOME SILT
- RKM — RIDGE AND KNOLL MORAINE: ROLLING AND OR RIDGED GROUND MORAINE COMPOSED OF TILL
- TALUS SLOPES: COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH AN ICE RICH MATRIX
- ESCARPMENT — DEPENDS UPON MAP UNIT
- AS — ABANDONED STRANDLINES: FORMER GLACIAL LAKE SHORELINES, VARIABLE FINE TO COARSE DEPOSITS
- B — BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS
- DR — DRUMLINIZED AND FLUTED SURFACES: COMMONLY LESS THAN 15 FT. OF COVER
- EVB — ERODING VALLEY BANKS: LOCALLY CHANNELED BY SURFACE RUNOFF AND/OR UNDERCUT BY STREAM EROSION, VARIABLE MATERIALS
- M — MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS: VARIABLE FINE TO COARSE MATERIALS
- OLD AND RECENT SLOPE FAILURES: SLIDES AND SLUMPS, COMMONLY SAND OVER SILTY CLAY
- ROCK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE NORMAN RANGE: MIXED ICE AND SILT TO BOULDERS
- SAND DUNES: MAINLY FINE TO MEDIUM SAND
- SINKHOLES IN SOLUBLE BEDROCK
- THERMOKARST DEVELOPMENT: LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT
- GENERALLY DISCONTINUOUS THIN (GENERALLY LESS THAN 10 FT.) GLACIAL DRIFT (MAINLY TILL, SOME SILTY LACUSTRINE DEPOSITS) OVER IRREGULAR BEDROCK
- SHALLOW (5 TO 15 FT. BUT GENERALLY LESS THAN 10 FT.) SURFICIAL VENEER. NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS GLB (SHL RKM DR) — DEPENDS ON TERRAIN TYPE
- SLOPEWASH EFFECTS, BOTH EROSIONAL (NUMEROUS GULLIES, RILLS) AND DEPOSITIONAL (COLLUVIUM): CONSISTS CHIEFLY OF A DISCONTINUOUS SURFICIAL LAYER (0 TO 15 FT.) CONSISTING OF ICE RICH ORGANIC SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEBBLES, FINER ON GLB AND COARSER ON RKM
- SPECKLED BOGS (ALSO CALLED PEAT PLATEAUS): 3 TO 12 FT. OF PEAT
- Pt — UNPATTERNED PEATLAND IN DEPRESSIONS, OFTEN EXTENSIVE, 3 TO 15 FT. OF PEAT

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	CONSTRUCTION CHAINAGE
MATCH LINE	MP 461.8
ACCESS ROAD TO BORROW AREA #234 AND OFF R.O.W. ACCESS	MP 461.9
OFF ROW ACCESS	MP 463.1
BORROW AREA #227 ACCESS ROAD TO BORROW AREA #228 SEE DWG 0400-12	MP 464.8
OFF ROW ACCESS	MP 466.4
OFF ROW ACCESS	MP 469.1
ACCESS RD TO BORROW AREA #220	MP 472.1
MATCH LINE	MP 474.4

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 10

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	Ⓒ
COMPRESSOR STATION	C	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	—Ⓐ—
METER STATION	M	TEMPORARY ACCESS ROAD	- -Ⓐ- -
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	- - - -
PROPOSED PERMANENT WHARF	Ⓦ	EXISTING HIGHWAY	——
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF	▲	BORROW AREA	
CNT REPEATER STATION			

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A11974	222,223,224,225, 268,269,270,271,272

OPERATING LICENSE NO.	
CONSTRUCTION PERMIT NO.	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

Nº	DATE	REVISION	APP'D
1	APR. 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

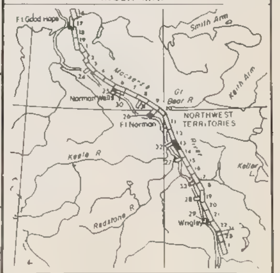
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

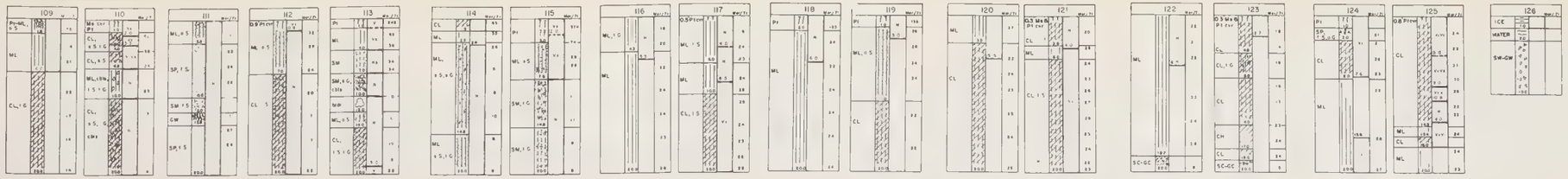
TITLE: ALIGNMENT SHEET FOR *EAST SIDE MACKENZIE RIVER* PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. SHEET 13 OF 23 — 0400-13 — FILE No.

INDEX MAP

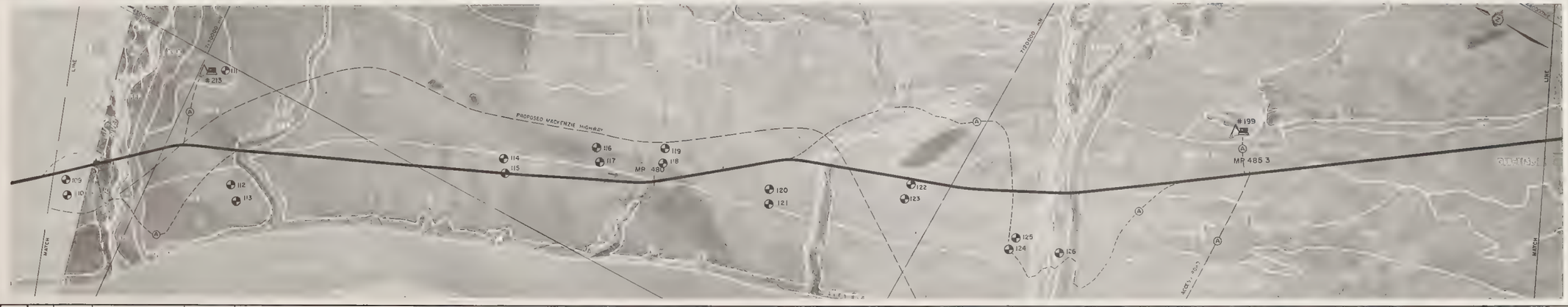


DRILL HOLE DATA



PROFILE

PIPE LINE
ACCESS ROAD



CONSTRUCTION DESIGN

CONSTRUCTION CHAINAGE (APPROX)	REFERENCE DRAWING & NOTES	DESIGN DATA
MP 474.4	MATCH LINE	
MP 474.9	OFF ROW ACCESS	
MP 475.6	ACCESS ROAD TO BORROW AREA # 23	
MP 476.5	OFF ROW ACCESS	
MP 481.3	OFF ROW ACCESS	
MP 483.2	OFF ROW ACCESS	
MP 484.7	OFF ROW ACCESS	
MP 485.2	ACCESS ROAD TO BORROW AREA # 199	
MP 485.3	ACCESS ROAD TO WHARF AND STORAGE SITE SEE DRAWING 0400-27	
		FOOTAGE THIS SHEET
		MATCH LINE

UTM GRID ZONE 10

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2 6 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A22430	210, 211, 212, 213, 214
A22427	57, 58, 59

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

Nº	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 10 Miles

DATE	MARCH 3, 1975
SCALE	1" = 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SURV ENGINEER	

TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO. 0400-14
SHEET 14 OF 23

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
S - Sand
M - Silt
cbl(s) - cobble(s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
s - some 20 to 35%
l - little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
c - coarse
cov - cover
f - fine
G - Gross
Lmd - limed
lyrd - layered
m - medium
Mg - Mean
org - organic
exp - expansion
vrd - varied

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
INCLUDING PARKS MOUNTAINS DIVISION
GIBSON & DOG PASS TO HILLCOMLAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVELS SOME COBBLES AND BOULDERS (S 1 3 d 2 3 4 3 2 3)

AFP ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 1 3 d 2 3 4 3 2 3)

ASP ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPPER (AVERAGE GENERALLY LESS THAN 5 FT THICK OVER DISCONTINUOUS SAND AND OR GRAVEL OVER TILL (S 1 2 d 1 2 & 2 3)

BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES

CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED SILT SAND GRAVEL (S 2 3 m 2 3 d 2 3 & 3 2 3)

SILTY CLAY LAYERS (S 2 3 m 2 d 2 3 & 3 m 2 3)

CLD DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL SIZES (S 1 3 d 1 2 & 2 3)

E ESKER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL (S 1 3 d 2 3)

EBR BRAIDED RIVERS

GLB BETTER DRAINED TYPE GENTLY SLOPING ICE RICH STRATA (0 MC UNTO HIGHLY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES (S 1 3 d 2 3 & 3 2 3)

GLB ICE RICH LACUSTRINE SILTS AND CLAYS (POORLY DRAINED) OFTEN WITH THERMOKARST ONLY PLASTIC SILTY CLAY MC UP TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 3 4 d 4)

HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVER LIES SMALL ON POORLY SILTY CLAY BEDMENTS IN CLOSED KETTLE HOLE DEPRESSIONS (S 1 m 2 3 d 2 & 2 4)

HT HIGH TERRACE 5 TO 15 FT SILT OVER 0 50 FT VARIOUS THIN SAND AND OR GRAVEL DEPOSITS ON ALL TERRACES ADJACENT TO THE MACKENZIE RIVER INCLUDES SOME ERODIONAL TERRACES (S 1 2 m 2 3 d 2 & 3 2 3)

K KAMES INCLUDES KAMES KAME DELTAS AND KAME TERRACES BUILT OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH (S 2 d 2 3)

KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF DRY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS 1 3 LAND OR LENSES (S 1 3 d 2)

LB LACUSTRINE BASINS POSTGLACIAL PONDED LACUSTRINE DEPOSITS LARGER FLAT BOTTOMED KETTLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 7 FT THICK OVER TILL

OW OUTWASH AND SROLYWASH DELTA PLAIN TABULAR BODIES OF GRAVEL AND SAND WITH SOME SILT (S 1 2m 3 d 2 & 2 m2

RMW RIDGE AND KNOLL MORAINE ROLLING AND OR RIDGED GROUND MORAINE COMPOSED OF TILL (S 1m 3 3 & 2 m 3 4)

TS TALUS SLOPES COARSE GRAVELS AND ANGULAR BOULDERS OFTEN WITH ANCHORED ICE (S 3 m)

ESCARPMENT 5 DEPENDS UPON NEAR UNIT

AS ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1m 2m3 d2m3 2)

BD BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS (S 3 d 3 & 4

DR DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK (S 1m2 2m2 d2m2 3)

EVR ERODED VALLEY BANKS LOCALLY CHANNELLED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAM EROSION VARIABLE MATERIALS (S 2 3 d 3 4)

MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS (S 2m3 4 d2m3 4)

OSF OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY

RG ROCK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE MACKENZIE MOUNTAINS MIXED ICE AND SILT TO BOULDERS (S 3 d 3)

SD SAND DUNES MAINLY FINE TO MEDIUM SAND (S 2 3)

SC SINKHOLES IN SOLUBLE BEDROCK (S 1 m)

TK THERMOKARST DEVELOPMENT IN ICE RICH BURIED ALLUVIAL DEPOSITS WITH STAGNANT WATER AND OR PEAT (S 3 d 3 & 4)

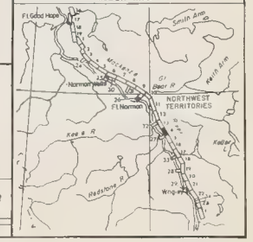
I GENERALLY DISCONTINUOUS THIN (GENERALLY LESS THAN 10 FT) ICE RICH SILTY PEAT OVER TILL (S 1 3 d 2 3 & 3 2 3)

SH SHALLOW (LESS THAN 5 FT BUT GENERALLY LESS THAN 10 FT) SURFICIAL SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEBBLES FINE OVER COARSE OR RAW (S 2 m 2 d 2 3m)

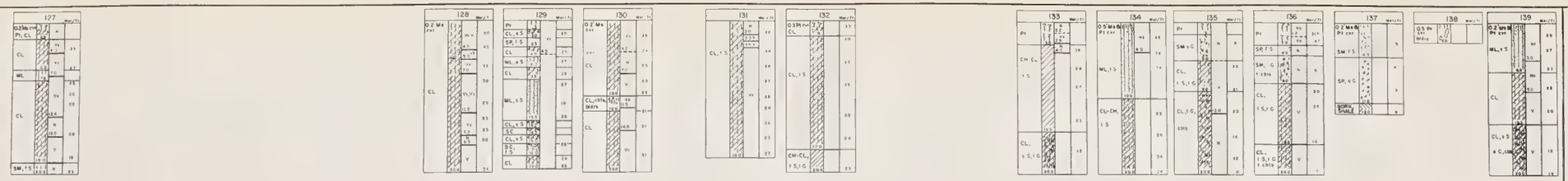
BF SPECKLED BOGS (ALSO CALLED PEAT PLATEAUX) 3 TO 10 FT OF PEAT OVER TILL (S 3 d 3 & 4)

PT UNPATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 10 FT OF PEAT (S 3 4 d 4)

INDEX MAP

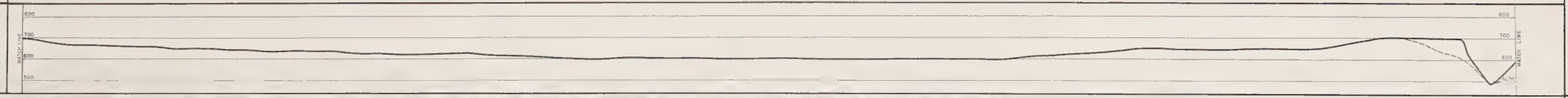


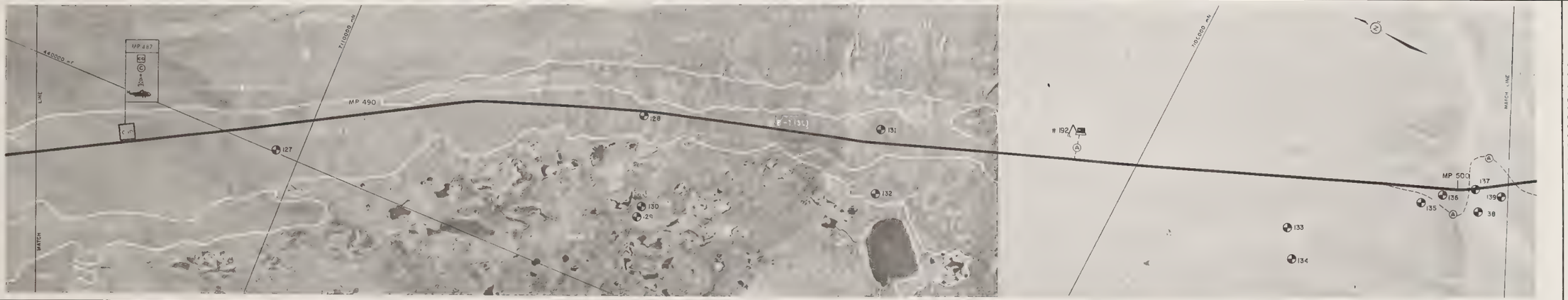
DRILL HOLE DATA



PROFILE

PIPELINE ——— ACCESS ROAD - - - -





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE							FOOTAGE THIS SHEET
CONSTRUCTION CHAINAGE DETAILS	MP 486.0	MP 487	MP 495.8 ACCESS ROAD TO BORROW AREA # 192	OFF R.O.W. ACCESS	MP 499.4	MP 500.1 OFF R.O.W. ACCESS	MP 500.7 MATCH LINE	
DESIGN DATA								

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
(Mx) - cobbles
C - Clay

O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
(xBx) - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

x and 35 to 50%
x. some 20 to 35%
i - little 10 to 20%
t - trace 1 to 10%

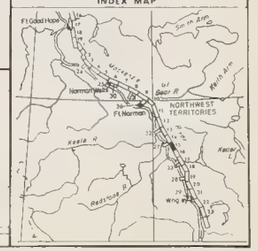
MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
c - coarse
cvr - cover
f - fine
G - Grass
Lrd - layered
lyrd - layered
m - medium
Mk - Moss
org - organic
veg - vegetation
vrd - varved

TERRAIN MAPPING AND TERRAIN SENSITIVITY LEGEND FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION
EXCLUDING PRINCE WILLIAM MOUNTAIN AND SIGNY RIVER PASS TO WILLOWLAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 2, t1 2w3 & 2 3)
AFP ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 1 2, t1 3)
AMP ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPSTRATUM GENERALLY LESS THAN 1 FT THICK OVER DISCONTINUOUS SAND AND OR GRAVEL OVER TILL (S 1 2, t1 3 & 2 3)
BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (S 1 2, t1 3 & 2 3)
CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL (S 2 2w3 s2 2w3 & 3 2w)
DL DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS (S 2 2w3 s2 2w3 & 2w3 2w4)
DLc DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL (S 1 2 s1 1 & 1 2)
E ESKER RIDGE MAINLY COMPRISED STRATIFIED SAND AND OR GRAVEL MINOR SILT INCLUSIONS (S 1 2 s1 2)
FFP FOSSIL FLOOD PLAIN MOSTLY THICK ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGE BRAIDED RIVERS (S 1 2, t1 2w3 & 2 2w3)
GL.B1 GLACIAL LAKE BASIN BETTEN DRAINED TYPE GENTLY SLOPING OR CONTRATIFIED MEDIUM TO ONLY PLASTIC SILTY CLAY WITH FEW PEAT INCLUSIONS (S 1 2 s1 2 & 2 2w3 s2 2w3)
GL.B2 GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH MED UM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 3 4, s2 4)
HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVER, SHALLOW PONDED SILTY CLAY TEDWETS IN CLOSED KETTLEHOLE DEPRESSIONS (S 1 2 s2 3 & 2 3 & 2 4)
HT HIGH TERRACE UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON GENERAL TERRACES ADJOINING THE MACKENZIE RIVER NEW DEPOSITS SOME ERODING TERRACES (S 1 2w3 t1 2w3 & 1 2w3)
K KAMES INCLUDES KAMES KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEX STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH (S 1 2 s2 3)
KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF ICE CONTACT SAND AND GRAVEL WITH COBBLES AND BOULDERS OFTEN WITH BOULDERS ON SAND AND ICE CORE (S 1 2 s1 2)
LD LACUSTRINE DELTA POSTGLACIAL PONDED PLACUSTRINE DEPOSITS LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND ANORGANIC SILT SILT AND FINE SAND BEDS COMMONLY 3 TO 15 FT THICK OVER TILL (S 2w3 s2w3 3w4)
OW OUTWASH AND OR OUTWASH DELTA PLAIN TABULAR BODIES OF GRAVEL SAND AND OR SILT (S 2 s1 2 & 2 2w3)
RKM RIDGE AND KNOLL MORAINE ROLLING AND OR DISCONTINUOUS MORAINE COMPOSED OF TILL (S 1w2 2 s2w3 2 & 2w3 2)
TS TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH AN ICE RICH MATRIX (S 3 4)
TTW TERRACE TRENCH WALL (S DEPENDS UPON MAPPED UNIT)
AS ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES WHERE PRESENT IS COARSE DEPOSITS (S 1w2 2w3 s2w3)
BD BEADED DRAINAGE PATTERN ICE RICH SILTY SOILS (S 3 4 & 4)
DR DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK (S 1 s2 2w3 s2w3 3)
ER ERODING VALLEY BANKS LOCALLY CHANNELED BY SURFACE RUNOFF AND OR LANDSLIDE BY STREAM EROSION VARIABLE WATER ALS (S s2 3w4)
MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS (S 2w3 4, s2w3 4)
OSF OLD AND RECENT SLIDE FAILURES SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY (S s1w2 2 & 1w2 3)
RG ROCK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE NORTH MAN RANGE MIXED ICE AND SILT TO BOULDERS (S 1 s1 2)
SD SAND DUNES MAINLY FINE TO MEDIUM SAND (S s2 3)
SH SINKHOLES IN SOLUBLE BEDROCK (S s1 s1)
TK THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 2w3 s2w3 & 2w3 3w4)
. GENERALLY DISCONTINUOUS THIN MIGENERALLY LESS THAN 1 OFT ICE ACIAL DEBRIS MAINLY TILL SOME SILTY LACUSTRINE DEPOSITS OVER BEDROCK (S 1w2 2w3, s2w3 & 2w3 3w4)
SHALLOW 15 TO 10 FT BUT GENERALLY LESS THAN 10FT SUPERFICIAL ICE NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS CLIFFS (SHOW OR) S DEPENDS ON TERRAIN TYPE
SL SLOPEWASH EFFECTS BOTH EROSIONAL NUMEROUS GULLIES RILLS AND DEPOSITIONAL COLLUVIUM CONSISTS OF REWORKED OF A DISCONTINUOUS SURFICIAL LAYER 2 TO 15 FT CONSISTING OF ICE RICH ORGANIC SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEBBLES RIVERS ON CLIFF AND COARSER ON PEAT (S s2 2w4 & 2w2 3w4)
BS SPECKLED BOG (ALSO CALLED PEAT PLATEAU) 3 TO 12 FT OF PEAT (S 3 4 s2 4)
PT UNPATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 3 4 s2 4)

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A22426	15, 16, 17, 18, 19
A22430	23, 24

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
1	1976	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

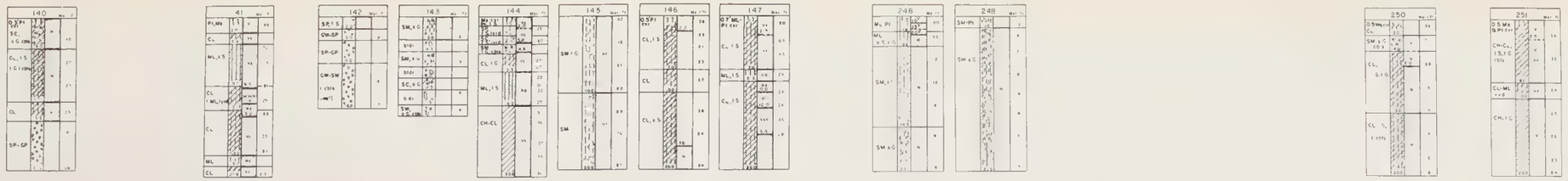
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

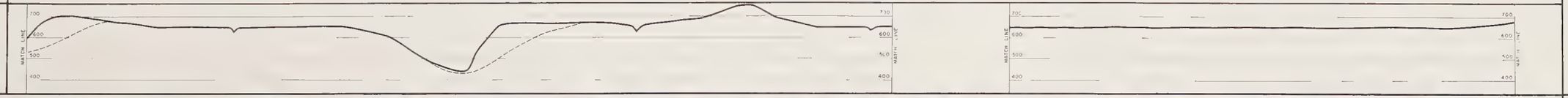
TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. Sheet 15 of 23 — 0400-15 — FILE NO.

DRILL HOLE DATA



PROFILE
PIPELINE ——
ACCESS ROAD ——



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

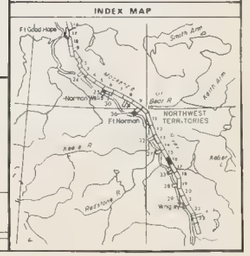
G Gravel
S Sand
M Silt
C Clay
O Organic
H High plasticity
P Poorly graded
W Well graded

MINOR SOIL COMPONENT PERCENTAGES

MISCELLANEOUS ABBREVIATIONS

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

INDEX MAP



CONSTRUCTION DESIGN

Construction Chainage (km)	Reference Drawing & Notes
MP 509.7	MATCH LINE
MP 509.8	OFF ROW ACCESS
MP 509.3	OFF ROW ACCESS
MP 509.0	ACCESS ROAD TO BORROW AREA #191
MP 508.3	OFF ROW ACCESS
MP 506.3	OFF ROW ACCESS
MP 498.4	MATCH LINE
MP 509.2	MATCH LINE
MP 510.8	ACCESS ROAD TO BORROW AREA #191
MP 512.8	MATCH LINE

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER 42 O.D. x 0.549 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.866 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A11973	158, 159, 160, 161, 162,
A22424	247, 248

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

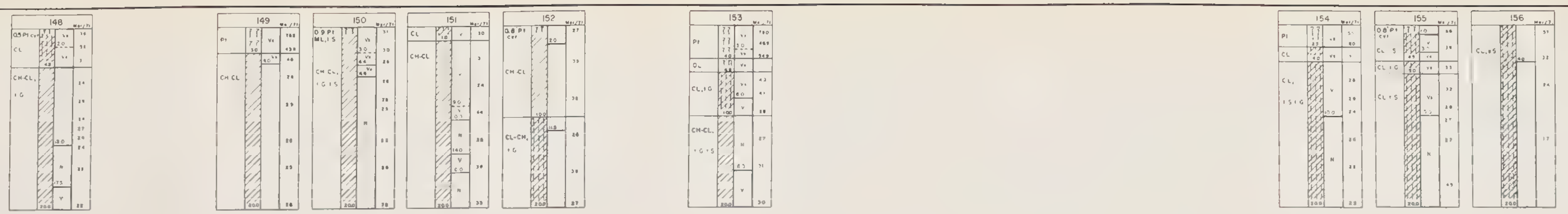
DATE	MARCH 3, 1975
SCALE	1 to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No SHEET 16 OF 23

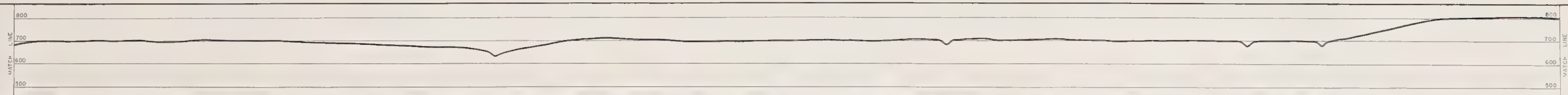
FILE No. 0400-16

DRILL HOLE DATA



PROFILE

PIPELINE
ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H - High plasticity
S Sand	Pt Peat
M Silt	P - Poorly graded
cbl(s) cobble(s)	bldrs - Boulders
C Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%	l - little 10 to 20%
s - some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss
c coarse	lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	ACCESS ROAD TO BORROW	MATCH LINE
CONSTRUCTION CHAINAGE (mi-ft)	MP 512.8	MP 524.6	MP 526.5
DESIGN DATA			

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A22424	249,250,251,252,253

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

Nº	DATE	REVISION	APP'D
1	APR.3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

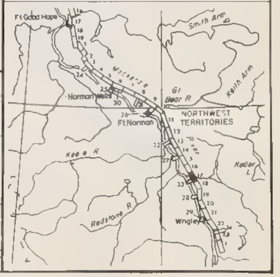
DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

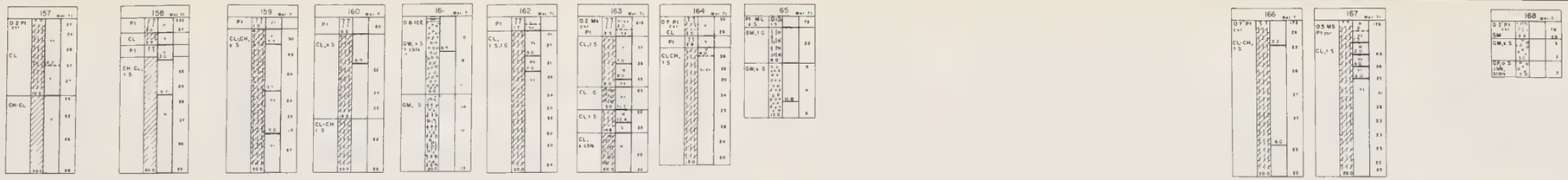
DRAWING/PLAN No. SHEET 17 OF 23 0400-17

FILE No.

INDEX MAP

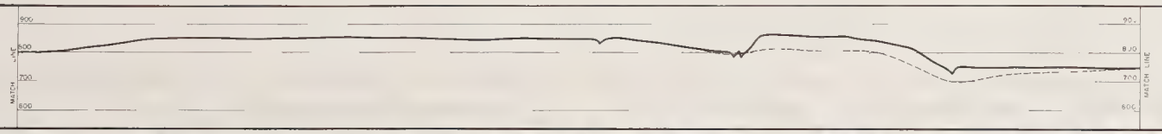


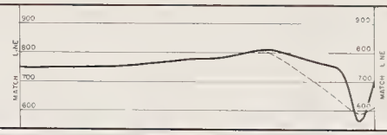
DRILL HOLE DATA



PROFILE

PIPELINE ——— ACCESS ROAD — — —





REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

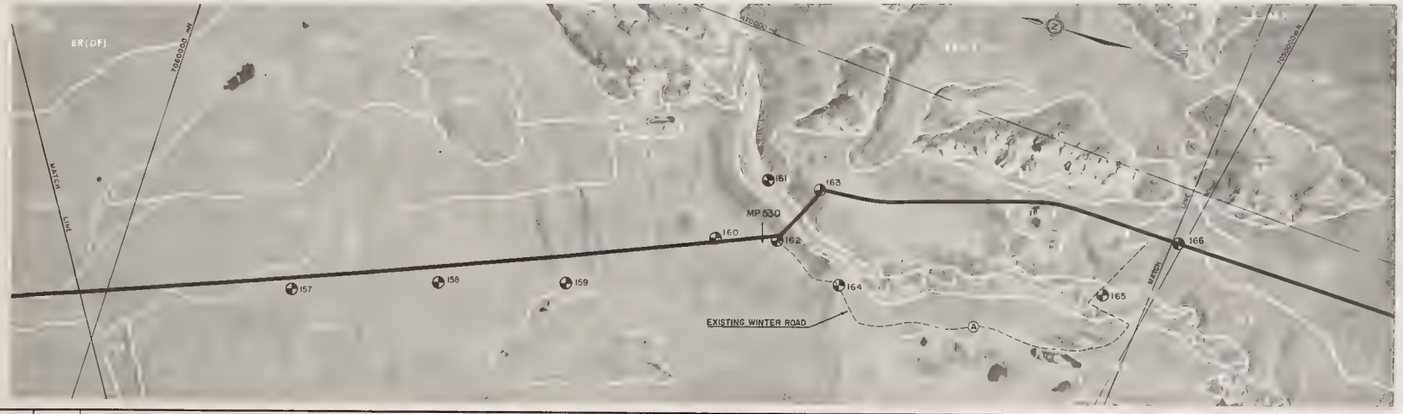
G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cbbl cobbles — bldr Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — i - little 10 to 20%
s some 20 to 35% — t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — G Grass — Mx Moss
c coarse — Lmd limed — org organic
cvr cover — lyrd layered — veg vegetation
f fine — m medium — vrd varied



FEARN WTYING AND TERRAIN BENDS WITH LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC VISION
(INCLUDING FRANKLIN MOUNTAINS VISION)
& BROWN BOGE FAES TO W LONGAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL BOWL COBBLES AND BOULDERS (S 1 3 ft 2m3 & 2 3)

AFF ACTIVE FLOOD PLAIN EROSIONAL CHANNEL BIG SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS

AWM ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPSTRATUM GENERALLY LESS THAN 5 FT THICK OVER DISCONTINUOUS SAND OR GRAVEL OVER TILL (S 1 2 of 3 & 2 3)

BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (S 1 2m3 3 2m3 & 1 2m

[illegible]

LP DELTA OF NE SAND PLAIN ICE RICH FINE SAND SILT WITH SOME SILTY CLAY LAYERS (S 2 2m3 L2 2m3 & 2m3 2m4)

D DELTA OF COARSE SAND PLAIN RIVER TO COARSE SAND WITH SOME GRAVEL SIZES (S 1 2 of 2 & 3 3)

E ESKER ICE MAINLY TOPPLERLY STRATIFIED SAND AND OR GRAVEL MINOR SILT INCLUSIONS (S 1 2 of 3)

FP FLOOD PLAIN MOSTLY THIN SILT OR SILTY TOPSTRATUM OVER [illegible]

S GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLY SLOPING OR [illegible] (S 1 2 of 3 & 2 3)

GD-B1 BOG PLAIN MOSTLY PEAT LESS THAN 10 FT THICK WITH GRAD THERMOKARST FEATURES [illegible]

GD-B1 BOG MEDIUM TO HIGH PEAT SILTY CLAY WITHIN TO 15 FT OR PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 3 5 of 4)

HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVERLIES SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLE HOLE DEPRESSIONS (S 1 2m2 3 of 3 & 2 4)

HT HIGH TERRACE UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DEPOSIT GRAVEL TERRACES ADJOINING THE MACKENZIE RIVER INCLUDES SOME EROSIONAL TERRACES

K KAMES INCLUDES KAMES, KAME DELTAS AND KAME TERRACES DEPOSITED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH MARBLE OVERBURDEN DEPTH (S 1 2 of 3)

KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF IRREGULARLY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS TILL AND ICE LENSES (S 1 2 of [illegible]

[illegible] BY SILT AND FINE SAND BEDS COMMONLY 2 TO 3 FT THICKNESS [illegible]

O OUTWASH AND OR DELTA TRASH DELTA PLAIN TABULAR BOD EROSIONAL GRAVEL AND OR SAND WITH SOME SILT (S 1 2m3 1 2m3 & 2 2m3)

RM RIDGE AND HOLE MORAINE HOLLING AND OR RIDGED GROUND MORAINE COMPOSED OF TILL (S 1 2m2 3 3 2m3 3 & 2m3 4)

T TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ANICE FROM MATRIX (S [illegible]

[illegible] ESCARPMENT S DEPENDS UPON RAMPART [illegible]

[illegible] ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1 2m2 2m3 2m3 2)

[illegible] BEADED DRAINAGE PATTERN ICE RICH SILTY SOILS [illegible]

[illegible] FLUVIOGLACIAL [illegible]

[illegible] FLUVIOVOLCANIC [illegible]

ELO ERODED VALLEY BANKS LOCALLY CHANNELLED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAMS FROM VARIABLE MATERIALS (S 2 2m3)

[illegible] MELTWATER CHANNELS AND ABANDONED WHOLE ICE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS (S 2m3 4 4m3 4)

[illegible] OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY (S 1 1m2 2 & 1m2 2)

[illegible] ROCK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE NORTHERN RANGE MIXED ICE AND SILT TO BOULDERS (S 1 1 2)

[illegible]

[illegible] GENERALLY DISCONTINUOUS THIN GENERALLY LESS THAN 10 FT GLACIAL DRIFT OR ALTIL SOME SILTY LARGE FINE DEPOSITS OVER REGULAR BEDROCK (S 1m2 2m2 2m3 & 2m3 3m4)

[illegible] SHALLOW (5 TO 15 FT BUT GENERALLY LESS THAN 10 FT) SURFICIAL MATERIAL OVER BEDROCK (S 1 2m2 2m3 & 2m3 3m4)

[illegible] GENERALLY DISCONTINUOUS THIN GENERALLY LESS THAN 10 FT GLACIAL DRIFT OR ALTIL SOME SILTY LARGE FINE DEPOSITS OVER REGULAR BEDROCK (S 1m2 2m2 2m3 & 2m3 3m4)

[illegible] SHALLOW (5 TO 15 FT BUT GENERALLY LESS THAN 10 FT) SURFICIAL MATERIAL OVER BEDROCK (S 1 2m2 2m3 & 2m3 3m4)

[illegible] NEER NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AND GLACIOLOGY (S DEPENDS ON TERRAIN TYPE)

[illegible] SLOPEWASH EFFECTS BOTH EROSIONAL INVERGOUS GULLIES FLUSH AND DEPOSITIONAL COLLUVIUM CONSISTS OF ERODED OR DEPOSITED VOLCANIC SURFICIAL LAYER 3 TO 15 FT CONSISTING OF CLAY ORGANIC SILT AND SILTY SAND WATER FLOWS WITH OR WITHOUT PEBBLES FINER ON GLB AND COARSER ON REM (S [illegible]

[illegible] SHORELIGHT ROCK ALSO GULLIES PEAT PLATEAUS 3 TO [illegible]

P UNPATTERNED PEATLANDS IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 3 4 of 4

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MAT M LINE				OFF ROW ACCESS		OFF ROW ACCESS	MAT M LINE			MAT M LINE			OFF ROW ACCESS	MAT M LINE
CONSTRUCTION CHAINAGE (m km)	MP 525.5				MP 531		MP 532.7	MP 533.8			MP 532.8			MP 533.7	MP 534
DESIGN DATA															

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.640 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AER A PHOTOGRAPHY

ROLL NO.	PHOTO NO
A22424	143, 144, 145, 146, 147

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
1	[illegible]	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 — 0.5 — 10 Miles

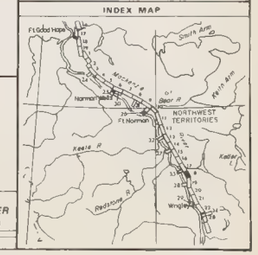
DATE	MARCH 3, 1975
SCALE	1" TO 200'
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR
EAST SIDE MACKENZIE RIVER
PHYSIOGRAPHIC DIVISION

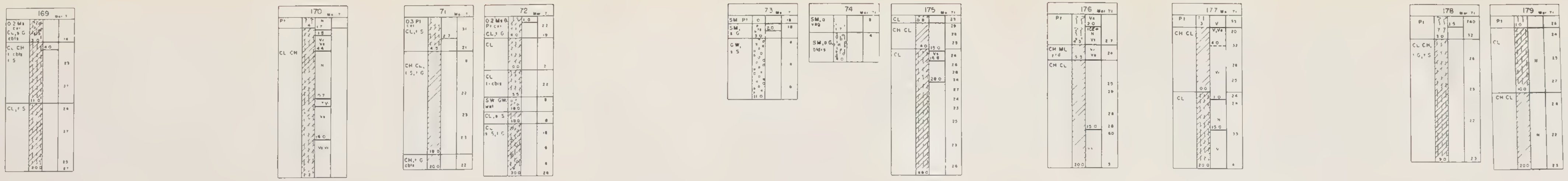
DRAWING PLAN NO. SHEET 10 OF 23

FILE No. 0400-18

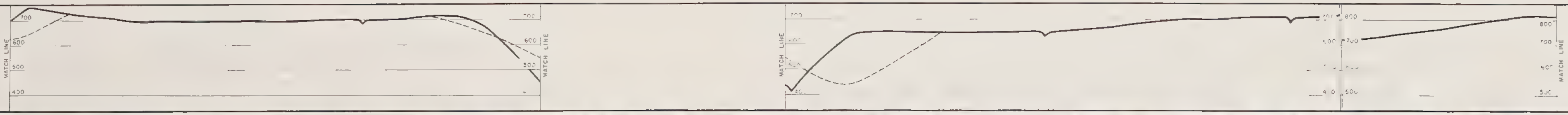
INDEX MAP

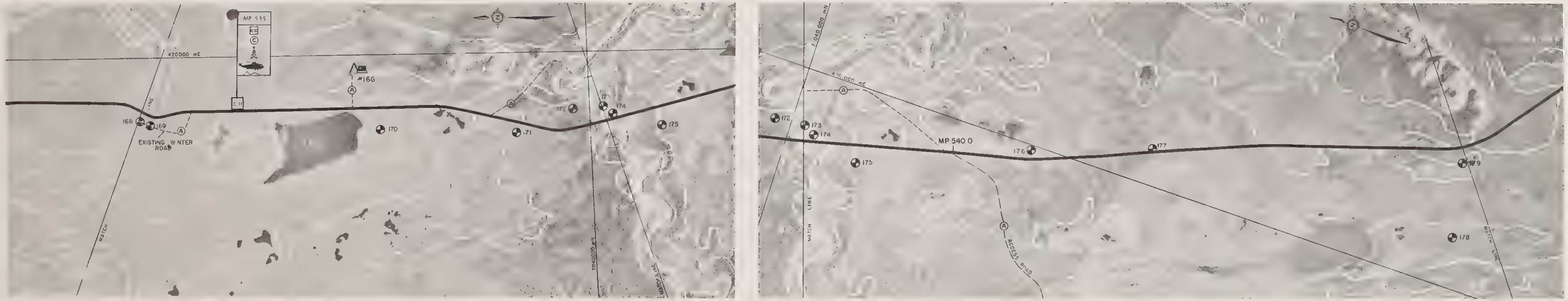


DRILL HOLE DATA



PROFILE
PIPELINE
ACCESS ROAD





REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H - High plasticity
S Sand	Pt - Peat
M - Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

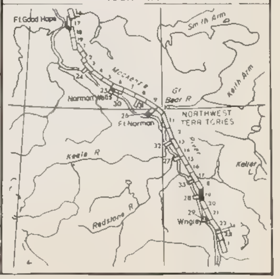
Bdrk bedrock	G Grass	Ms Moss
c coarse	Lnsd lensed	org organic
	lyrd layered	veg vegetation
f fine	m medium	vvd varved

CONSTRUCTION DESIGN
REFERENCE DRAWING & NOTES
CONSTRUCTION CHAINAGE
DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	
METER STATION		TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF		EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 22424	146 - 150

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

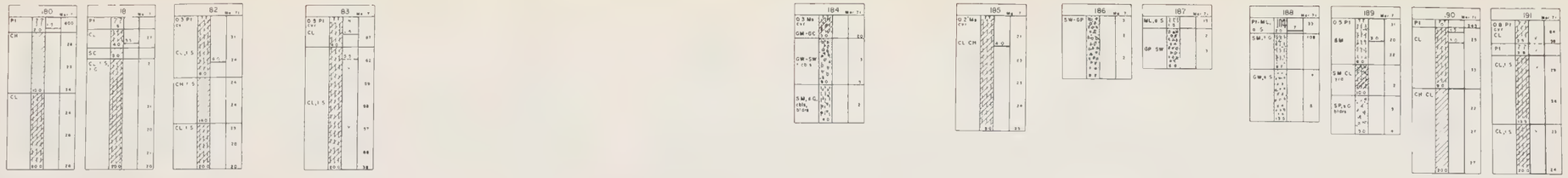
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY:	
CHECKED BY	
APPROVED BY.	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

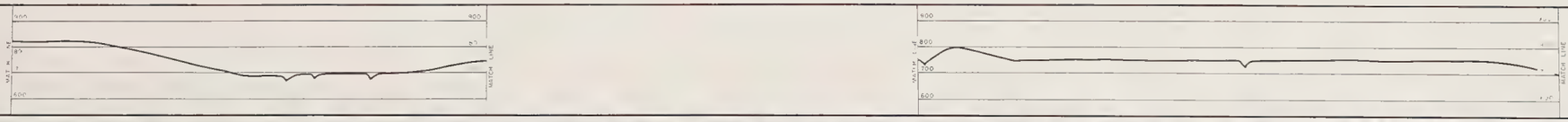
DRAWING/PLAN No. 0400-19
SHEET 19 OF 23
FILE No

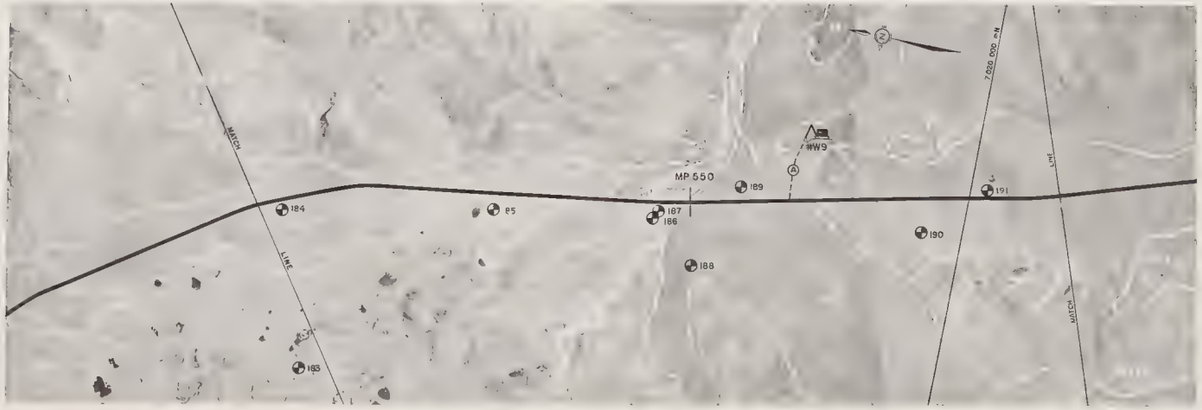
DRILL HOLE DATA



PROFILE

PIPELINE ——— ACCESS ROAD - - - -





REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O - Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cobble Cobbles — blder Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — i - little 10 to 20%
s - some 20 to 35% — t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock — G Gravel — Mk Muskeg
c - coarse — Lmd limed — org organic
cov cover — lyrd layered — veg vegetation
f - fine — m medium — vrd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
INCLUDING FRANKLIN MOUNTAINS DIVISION
CARSON RIDGE FADE TO WILLOWLAKE RIVER AREA

F1.0 ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3 a1 2w3 & 2 3 a2 2w4)
F1.1 ACTIVE FLOOD PLAIN ABANDONED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 1 2 a1 3)
F1.2 ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPSTRATUM GENERALLY LESS THAN 8 FT THICK OVER QUICKSTRING BOG SAND AND OR GRAVEL OVER TILL (S 1 3 a1 3 & 2 3)
F2 BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES
F3 COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL (S 2 2w3 s2 2w3 & 2 2w4)
F4 DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH BOWL SILTY CLAY LAYERS (S 1 2w3 s2 2w3 & 2w3 2w4)
F5 DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL SIZES (S 1 2 s1 2& 2 3)
F6 ESKER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL MINOR SILT INCLUSIONS (S 1 2 a1 3)
F7 GLACIAL LAKE BASIN MOSTLY THICK ICE RICH SILTY TOPSTRATUM OVER ALLOWLAKE AND OR GRAVELLY TO COBBLES ACCOMPANIED WITH LARGER ESKER DEPOSITS (S 1 2 a1 2w3 & 2w3)
F8 GLACIAL LAKE BASIN BETTER DRAINED TYPE GENERALLY ORGANIC OR RICH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH PEAT OR NO THERMOKARST FEATURES (S 2w3 2w4 2w3 & 2 3 a1)
F9 GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 2 4 a1 a)
F10 HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVERLYES SHALLOW MIXED SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS (S 1 2w3 3 a2 3 & 2 a1)
F11 RIVER TERRACE UP TO 15 FT SILT OVER ROUGHLY CONTINUOUS THIN SAND AND GRAVEL DEPOSITS FROM 1 TO 3 FT THICK ON THE MACKENZIE RIVER INCLUDES SOME SPECIAL TERRACES (S 2 2w3 a1 2w4)
F12 KAME INCLUDES KAMES KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE DIFFERENT DEPTH (S 1 3 a2 3)
F13 KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF DIRTY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS TILL AND ICE LENSES (S 1 2 a1 3)
F14 LIQUISTRINE BASIN MOSTLY ANCIENT PONDS FUTURE DEPOSITS OF ORGANIC SILT AND CLAY WITH OCCASIONAL MINERAL INCLUSIONS ECCENTRIC PEAT DEPOSITS ARE COMMON (S 2 3 a1 2w3 & 2w3 2w4)
F15 AIR SILT AND FINE SAND BEDS COMMONLY 3 TO 15 FT THICK OVER TILL (S 2w3 s2w3 3w4)
F16 OUTWASH AND OR OUTWASH DELTA PLAIN TABULAR BOD ES OF GRAVEL AND OR SAND WITH SOME SILT (S 1 2w3 s1 2w3 & 2 2w3)
F17 RIDGE AND HILLS MORAINE ROLLING AND OR RUGGED DRUMLINOID MAINE COMPOSED OF TILL (S 1 w2 3 s2w3 3 & 2w3 a)
F18 FALLS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ICE RICH MATRIX (S 1 a1)
F19 SPECIAL TERRAIN (S DEPENDS UPON MAP SCALE)
F20 ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1w3 2w3 s2w3 3)
F21 BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS (S 3 s2 & 4)
F22 DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK (S 1w2 2w3 2w3 3)
F23 ERODING VALLEY BANKS LOCALLY CHANNELED BY SURFACE RUN OFF AND OR UNDERCUT BY STREAM EROSION VARIABLE WATER FLOW (S 2w3)
F24 MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS (S 2w3 s1 2w3 4)
F25 OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY (S s1w3 2 & 1w3 3)
F26 ROCK AND TALUS CLADDERS ALONG THE WESTERN FRONT OF THE MAIN RANGE MIXED ICE AND SILT TO BOULDERS (S 1w3 3)
F27 SHALLOW SOIL OVER FINE TO MEDIUM SAND (S s2 3)
F28 SHALLOW TO SEVERAL BEDROCK (S 1 s3)
F29 THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 2w3 s3w3 & 2w3 3w4)
F30 GENERALLY DISCONTINUOUS THIN GENERALLY LESS THAN 10 FT GLACIAL DRIFT MAINLY TILL SOME SILTY LACUSTRINE DEPOSITS OVER IRREGULAR BEDROCK (S 1w2 2w3 s2w3 & 2w3 3w4)
F31 SHALLOW IS TO 15 FT BUT GENERALLY LESS THAN 10 FT SLIPPERY OAL LEEKER NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS CLAY OR SILT (S 1w3 s2 & 2 3 a1)
F32 SLOPEWASH EFFECTS BOTH EROSIONAL NUMEROUS GULLIES FILLS AND DEPOSITS SHALLOW LIMY SOME 3 TO 5 FT OVERLY OF A CONSIDERABLE MOUSSURT OAL LAYER 3 TO 15 FT CONTAINING ICE RICH ORGANIC SILT AND SILTY SAND MATERIALS WITH OR WITHOUT BOULDERS (S 2w3 s2 3 & 2w3 3w4)
F33 ON CLIB AND CORRER ON CLIB (S 2w3 & 2w3 3w4)
F34 SPECKLED BOG SHALLOW GRAVELLED PEAT PLATEAUS (S 3 2 1 2 a1)
F35 UNFRETTERNED PEAT LAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 2 4 a1)

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	MATCH LINE
CONTRACT ON CHAINAGE PROFILE	MP 544.0	MP 547.2
DESIGN DATA		

REFERENCE DRAWING & NOTES	MATCH LINE	MATCH LINE
CONTRACT ON CHAINAGE PROFILE	MP 550.2	DIP R.O.W. ACCESS TO BORROW AREA #W9
DESIGN DATA		

REFERENCE DRAWING & NOTES	MATCH LINE	MATCH LINE
CONTRACT ON CHAINAGE PROFILE	MP 556.2	
DESIGN DATA		

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 2424	41 42 43 44

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE [illegible]

NO	DATE	REVISION	APP'D
1	APR 9 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

1 0 1 2 3 4 5 6 7 8 9 10 M

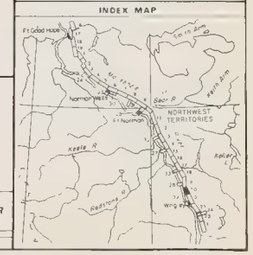
DATE	MAR 14 1975
SCALE	[illegible]
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	[illegible]
DIV. ENGINEER	[illegible]

TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

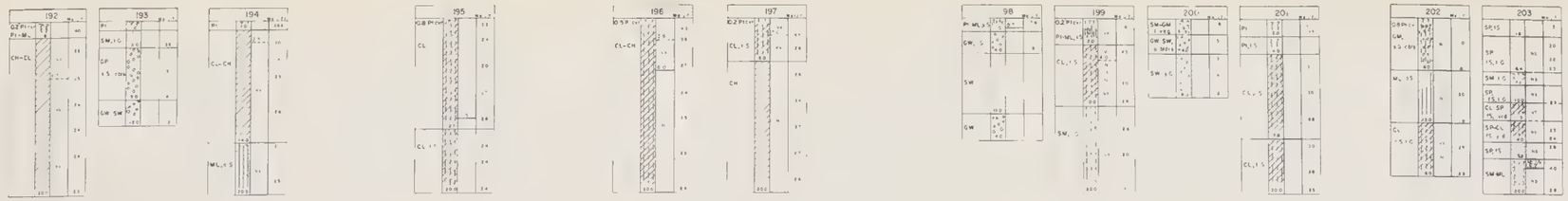
DRAWING/PLAN No 0400-20

FILE No

INDEX MAP

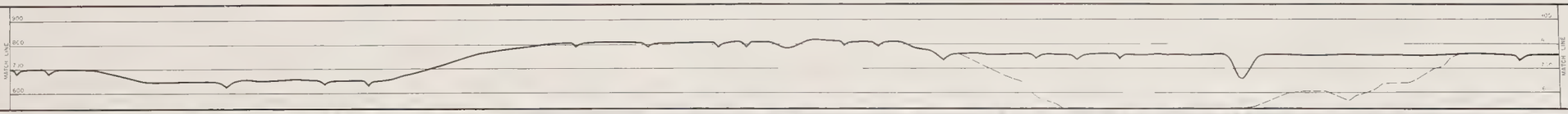


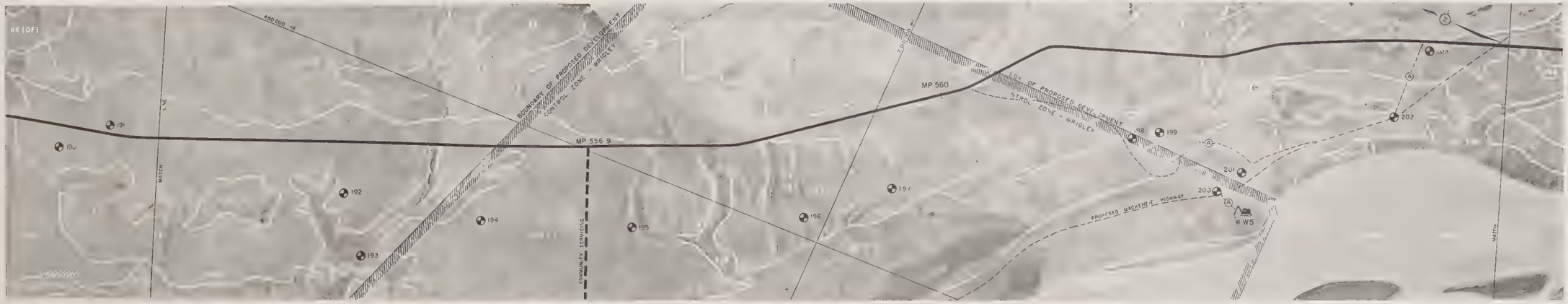
DRILL HOLE DATA



PROFILE

PIPELINE ——— ACCESS ROAD - - - -





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	ACCESS ROAD TO BORROW AREA (MP) — MATCH LINE
CONSTRUCTION CHAINAGE (KM)	MP 557.1 — MP 557.9	MP 559.5 — MP 560.1
DESIGN DATA		

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.729 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 22624	135, 146, 147
[illegible]	[illegible]

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 600 PSI
MAXIMUM OPERATING PRESSURE [illegible] PSI

NO	DATE	REVISION	APP'D
		GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 4, 1975
SCALE	1 : 10 000
DRAWN BY	[illegible]
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWN NO PLAN NO 0400-21

SHEET [illegible] FILE NO.

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cbl or c cobble(s) — bldr Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

y and 35 to 50% — trace 10 to 20%
s some 20 to 35% — t trace 1 to 10%

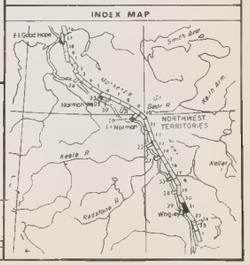
MISCELLANEOUS ABBREVIATIONS

Bdk bedrock — G Grass — Mv Moss
c coarse — L/md layered — org organic
cv cover — lyrd layered — veg vegetation
f fine — [illegible] — [illegible]

TERRAIN MAPPING AND TERRAIN SUMMARY UNITS LEGEND FOR EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION INCLUDING FRANKLIN MOUNTAINS DIVISION & BODIN & DOE PASS IN WILDCRAKE RIVER AREA

[illegible]

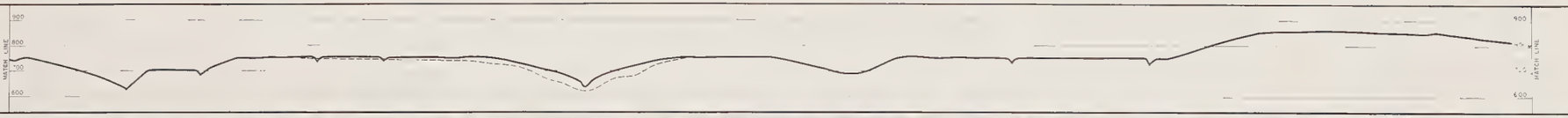
INDEX MAP



DRILL HOLE DATA

PROFILE

PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	OFF ROW ACCESS	BORROW AREA # 154	OFF ROW ACCESS	MATCH LINE
CONSTRUCTION CHAINAGE (km)	MP 565.3	MP 565.9	MP 568.3	MP 569.6	MP 570.0
DESIGN DATA					

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L - Low plasticity — H - High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cbbl - cobbles — bld - Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — i - little 10 to 20%
s some 20 to 35% — t trace 1 to 10%

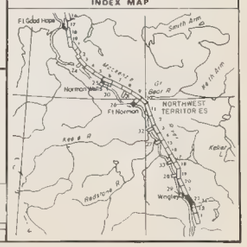
MISCELLANEOUS ABBREVIATIONS

Bdk bedrock — Ms Moss
c coarse — Lnod lensed — org organic
cv cover — lyrd layered — vtg vegetation
m medium — var varied

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION
INCLUDING FRANKLIN MOUNTAINS DIVISION
(BOOK 9 SHEETS 10 WILLOWLAKE RIVER AREA)

AF ALLUVIAL FAN DEPOSIT POORLY SORTED SILTY SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 2 cl 2w3 & 3 3)
AFF ACT VE FLOOD PLAIN EXPOSED CHANNELS BED SAND AND GRAVELS WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 1 2 cl 2)
AFF ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND FORMATION GENERALLY LESS THAN 3 FT THICK OVER DISCONTINUOUS SAND AND OR GRAVELS OVER BEDROCK (S 3 cl 3 & 4)
BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (S 1 2w3 cl 2w3 & 4 2w4)
CA COVERING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL (S 2 2w3 cl 2w3 & 3 2w4)
D DELTA CF NG SAND PLAIN ICE RICH FINE SAND AND SILT IN SOME SILTY CLAY LAYERS (S 2 2w3 cl 2w3 & 3w3 2w4)
E ESKER RIDGES COARSE SAND PLAIN FINE TO COARSE SAND AND GRAVEL SOME SOIL (S 1 2 cl 2 & 2 3)
E ESKER P DGE MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL MINOR SILT INCLUSIONS (S 1 2 cl 3)
F FLOOD PLAIN MOSTLY THIN ICE RICH SILTY TO PEAT SILT OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGER BRAIDED RIVERS (S 1 2 cl 2w3 & 2 2w3)
G GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLY SLOPING ICE RICH STRATIFIED MEDIUM TO HIGH PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES (S 2w4 2w4 2w3 4 & 2 3)
GF GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH MEDIUM TO HIGH PLASTIC SILTY CLAY WITH UP TO 10 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAG NANT WATER (S 3 2w4 2w4 2w3 4 & 2 3)
M MORAINE MORAINE LARGE HUMMOCKS AND SHORT ROLLING COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT COVER ESPECIALLY ON POORLY DRAINED SITES (S 1 2 cl 2w3 & 3 2w4)
P ICE TERRACE UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL DEPOSITIONAL TERRACES ABOVE THE MACKENZIE RIVER INCLUDES SOME EROSIONAL TERRACES (S 1 2w3 cl 2w3 & 1 2w4)
R KAMES INCLUDES KAMES KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH COBBLES AND BOULDERS (S 1 2 cl 2w3 & 2 2w4)
RT KAME TERRACE PARTIALLY DISSECTED TERRACES COMPOSED OF GRAVEL POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS TILL AND ICE LENSES (S 1 2 cl 3)
S LACUSTRINE BASINS POSSIBLE ALLUVIAL FANS DEPOSITS IN LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 3 FT THICK OVER BEDROCK (S 2w3 2w3 2w4)
T OUTWASH AND OR OUTWASH DELTA PLAIN TABULAR TERRACES SAND AND OR SAND WITH SOME SILT (S 1 2w3 cl 2w3 & 2 2w3)
TM RIDGE AND KNOLL MORAINE ROLLING AND OR PIGGY GROUND MORAINE DOMINOES OF TILL (S 1w3 2 2w3 3 & 2w3 4)
V TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ALLUVIAL ICE RICH MATRIX (S 4 cl)
EC ESCARPMENT S DEPENDS UPON MAP UNIT
A ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE NATURE TO COARSE DEPOSITS (S 1w3 2 3w3 4 2)
B BEADED DRAINAGE PATTERN ON ICE RICH SILTY SOILS (S 3 4 & 4)
D FLUTED AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK (S 1w3 2w3 4w3 3)
E ERODING VALLEY BANKS LOCALLY CHANNELED BY SURFACE RUNOFF AND OR LANDSLIDE BY STREAM EROSION VARIABLE MATERIALS (S 4)
M MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE NATURE TO COARSE MATERIALS (S 2w3 4 cl w3 4)
O OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY (S 4 cl 3 & 4w3 3)
R ROCK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE NORTH NAHANI RANGE MIXED ICE AND SILT TO BOULDERS (S L cl 3)
S SAND DUNES MAINLY FINE TO MEDIUM SAND (S cl 3)
SH SINKHOLES IN SOLUBLE BEDROCK (S 1 cl)
T THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 2w3 4w3 & 2w3 3w4)
V GENERALLY DISCONTINUOUS THIN VEENEER LESS THAN 10 FT ICE RICH SILTY TILL OVER BEDROCK (S 2w3 4w3 & 2w3 3w4)
W ARCUATE BEDROCK (S 2w3 4w3 & 2w3 3w4)
X ALLUVIAL FAN SILT BUT GENERALLY LESS THAN 10 FT SURFICIAL VEENEER WITH SUGGESTED PARENT TERRAIN TYPES TO DETERMINE SENSITIVITY AS SUBLIGNIFICANT (S DEPENDS ON TERRAIN TYPE SLOPEWASH EFFECTS BOTH PERIODICAL INCLUDING SOLIFLUCTION AND DEPOSITIONAL COLLUVIUM CONSISTS CHIEFLY OF A DISCONTINUOUS SURFICIAL LAYER 10 TO 15 FT CONSISTING OF ICE RICH ORGANIC SILT AND SILTY SAND WATER ALSO WITH OR WITHOUT PEBBLES FINE GRAVEL AND COARSER ON RIM (S w3 3w4 & 2w3 3w4)
PB SPECKLED BOGS ALSO CALLED PEAT PLATEAUS 3 TO 15 FT OF PEAT (S 3 4w3 & 4)
PT UNFAULTERED PEATLAND HOLLOW DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 3 4w3 & 4)

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A 22424	168, 169
A 22424	57,58,59,60,61,62,63

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
	1977	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

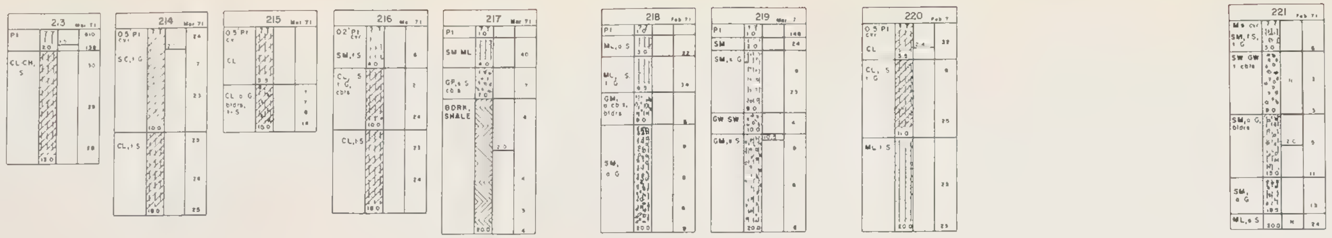
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

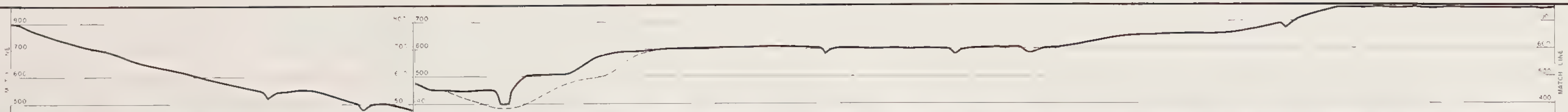
TITLE ALIGNMENT SHEET FOR EAST SIDE MACKENZIE RIVER PHYSIOGRAPHIC DIVISION

DRAWING PLAN No. 0400-22
SHEET 27 OF 33
FILE No.

DRILL HOLE DATA



PROFILE
PIPELINE
ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

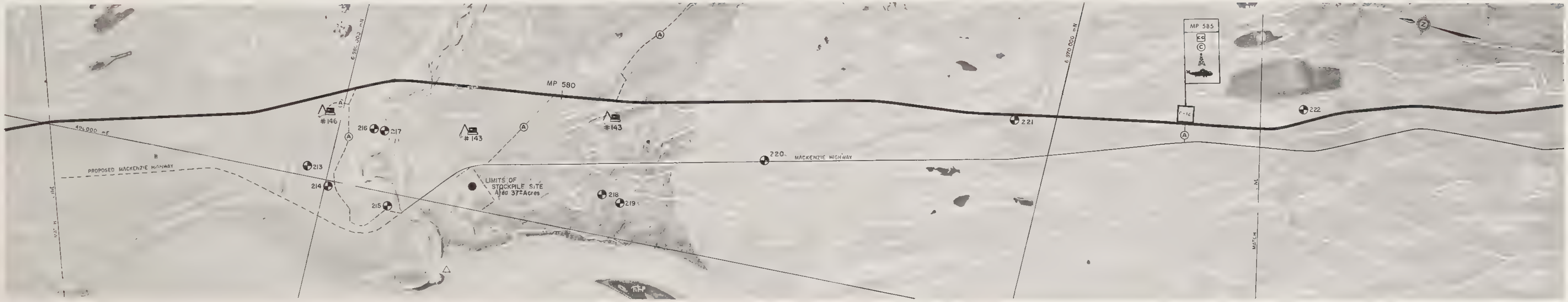
G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss
c course	Lnsd lensed	org organic
cr coarse	lyrd layered	veg vegetation
f fine	m medium	vrd varved



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES: MATCH LINE; OFF ROW ACCESS; ACCESS RD TO BORROW AREA; MATCH LINE

CONSTRUCTION CHAINAGE: MP 576.0; MP 578; MP 579.9; MP 580.5; MP 585.7

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EX'STING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A23489	248, 249
A23229	107, 108

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
1	APR 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

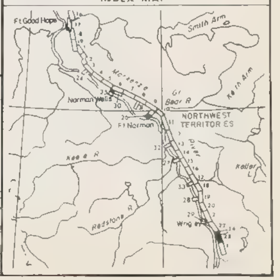
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

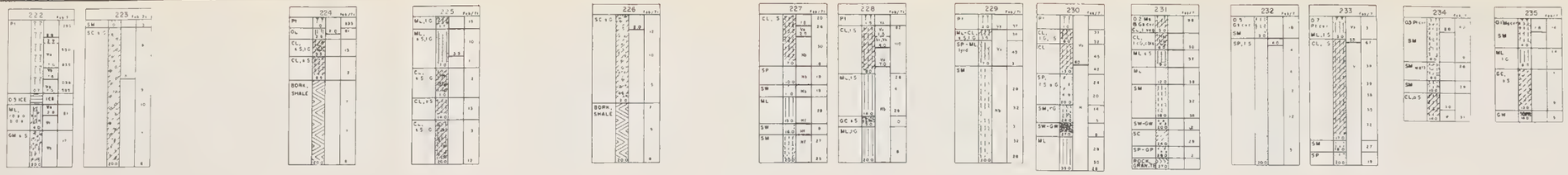
TITLE ALIGNMENT SHEET FOR *EAST SIDE MACKENZIE RIVER* PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No 0400-23
SHEET 23 OF 23
FILE No.

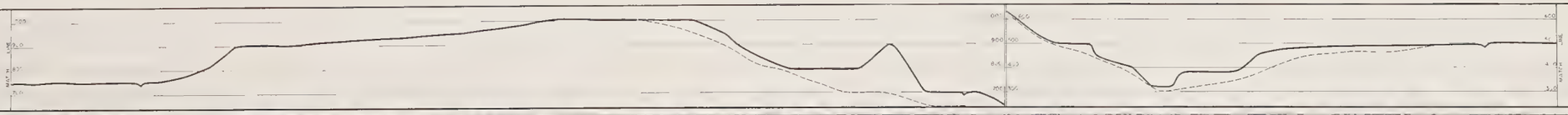
INDEX MAP



DRILL HOLE DATA



PROFILE
PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE (KM)

DESIGN DATA

FOOTAGE THIS SHEET

JTM GRID ZONE 10

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
S Sand
M Silt
cbl cobble(s)
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
bldrs Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
c coarse
cn cobble
f fine
Gr Grass
Lmd layered
lyrd layered
m medium
Mr Moss
org organic
veg vegetation
vvd varved

INDEX MAP

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A23329	73, 74
A23489	32, 33

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE (640 PSI)
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO.	DATE	REVISION	APP'D
1	4 APR 1974	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

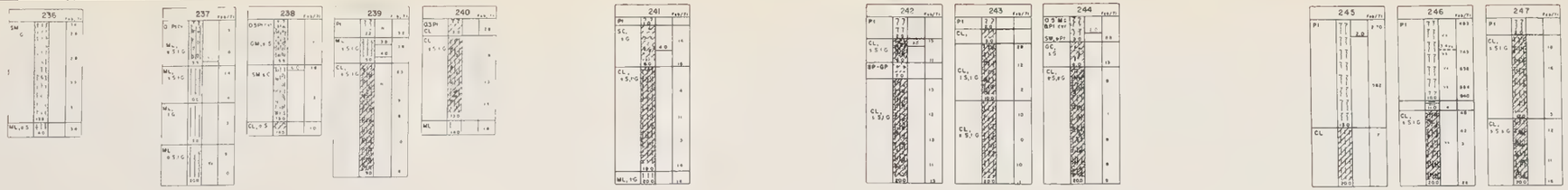
0 5 1 M.

DATE	MARCH 3 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

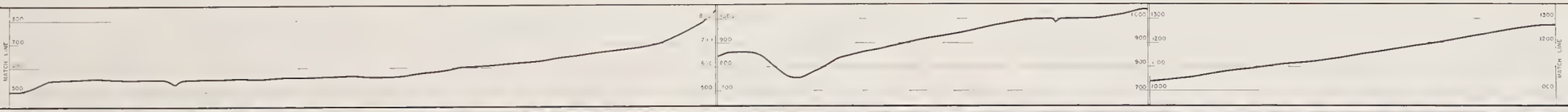
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0500-01
SHEET 1 OF 19

DRILL HOLE DATA



PROFILE
PIPELINE
ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Low plasticity
S Sand
M Silt
cbl cobbles
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
bldr Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
c course
cvr cover
f fine
m medium
Gs Grass
Lmd layered
lyrd layered
Ms Moss
org organic
vgt vegetation
vfs very fine sand

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION
INCLUDING HARE PLATEAU DIVISION
BETWEEN LAKE BASIN TO BIRCH [illegible]

[illegible]

STRATUM GENERALLY LESS THAN 5 FT THICK OVER DISCONTINUOUS SAND AND OR GRAVEL OVERSITES

[illegible]

DELTA FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS

[illegible]

DELTAIC COARSE AND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL BLOCKS

[illegible]

ESKER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL WITH MINOR SILT INCLUSIONS

[illegible]

GLACIAL LAKE BASIN BETTER DRAINED TYPE CENTRAL LOWING ICE RICH STRATUM LOWER WITH HIGHLY PLASTIC CLAY AND SAND WITH ICE

[illegible]

GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED SAND AND ICE RICH WELL UP TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND ICE DEPICTED THERMOKARST FEATURES CONTAINING STAGNANT WATER

[illegible]

MORAINE WITH KNOB AND KETTLE MORAINE COMPOSED OF SILT SAND AND GRAVEL WITH SAND AND GRAVEL INCLUSIONS

[illegible]

HIGH TERRACE UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DEPOSITIONAL TERRACES ALONG THE MACKENZIE RIVER INCLUDES SOME PERIGLACIAL TERRACES MORE SANDY AND GRAVELLY ALONG OTHER RIVERS

[illegible]

OUTWASH AND OR OUTWASH DELTA PLAIN TABULAR BODIES OF GRAVEL

[illegible]

ROLLING AND HILLY MORAINE ROLLING AND OR RIDGED GROUND MORAINE COMPOSED OF TILL

[illegible]

ESCARPMENT IS DEPENDS UPON TERRAIN TYPE

ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS

[illegible]

ESKER ESKER LENGTH NARROW SUBLINEAR BODIES OF SILT SAND GRAVEL AND ABLATION TILL

[illegible]

DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN [illegible] FT OVER BEDROCK

[illegible]

FLOODING VALLEY BANKS LOCALLY CHANNELIZED BY SURFACE RUNOFF AND [illegible] DEPOSIT BY STREAM EROSION VARIABLE MATERIALS

[illegible]

WETWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS

[illegible]

OLD AND RECENT SLOPE ALLUVIUM SLUMPS AND SLUMPS COMMON SAND OVER DENSE CLAY

[illegible]

[illegible] THAW BASINS AND PONDS WITH STAGNANT WATER

[illegible]

RIVER MOUTH DELTA MAINLY FINE SANDY TO GRAVELLY MATERIAL LAYER

[illegible]

[illegible] BUT GENERALLY LESS THAN 10 FT SILTY CLAY LENSES

[illegible]

[illegible] PERIODICAL NUMEROUS CLUSTERS [illegible] AND

[illegible]

[illegible] AND MATERIALS WITH GRAVEL AND PEBBLES FINER SINGLE BANDS CHANGES ON RISE

[illegible]

SPECKLED BOGS ALSO CALLED PEAT PLATEAUS 3 TO 12 FT OF PEAT

[illegible]

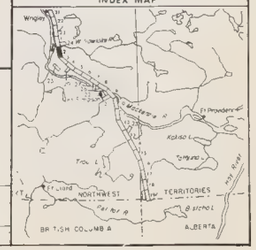
UNPATTERNED PEATLAND NO DEPRESSIONS OFTEN EXTENSIVE 3 TO 18 FT OF PEAT

[illegible]

STRIPED BOGS ALSO CALLED PATTERNED GROUND BOGS OFTEN COMMONLY 3 TO 10 FT AND EXCEPTIONALLY UP TO 15 FT OF PEAT

[illegible]

INDEX MAP



CONSTRUCTION DESIGN

REFERENCE DRAWING & DETAILS — MATCH LINE

CONSTRUCTION CHAINAGE POINTS — MP 598.6 — MP 612.8 — MATCH LINE

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
COMPRESSOR STATION WITH CHILLING
METER STATION
MATERIAL STOCKPILE SITE
PROPOSED PERMANENT WHARF
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
PROPOSED HIGHWAY
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.546 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A23489	76, 77, 78, 142, 143

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO.	DATE	REVISION	A.V.S.
1	APRIL 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 MILES

DATE	MARCH 3 1975
SCALE	1" to 2000'
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	[illegible]
SUPV. ENGINEER	[illegible]

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO. 0500-02
SHEET 2 OF 19
FILE No.

DRILL HOLE DATA

PROFILE — PIPE LINE ---- ACCESS ROAD

CONSTRUCTION DESIGN

REFERENCE DRAWING & SHEETS

ACCESS ROAD TO BORROW AREA (PHOTO INTERPRETATION)

MP 614.5

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock	Gs Grass	Ms Moss
c coarse	L/sod layered	org organic
dvl cover	lyrd layered	veg vegetation
f fine	m medium	vvd varved

TERRAIN TYPING

ALG ALLUVIAL GRAVEL POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3-5 d1 2-5 3 3-5 2-5)

ASP ALLUVIAL SPANDREL PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOP STRATUM GENERALLY LESS THAN 5 FT THICK OVER DISCONTINUOUS SAND AND GRAVEL OVER TILL (S 1 d 1 3 3 2 3)

BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (S 1 2-5 d 1 2-5 3 1 2-5)

CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL (S 3-5 3 2-5 3 3 2-5)

DRAINLESS ZEO AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF FILL OVER BEDROCK (S 1 3 d 1 3 3-5 2 3)

NO DRAINLESS BASINS LOCALLY CHANNEL ICE BLOCK MADE RUNOFF AND OR UNDERFLOW BY STREAM BROADLY HAVEBEL MATERIALS (S 3 d 1 3 2-5)

MC WELL WATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE NEW COARSE MATERIALS (S 2 3 d 1 3 2-5)

SLOPE FEATURES DISCS AND BUMPS COMMONLY SANDY OVER SILTY CLAY (S 2 1 3 d 2 3 1 3-5)

SAND DUNES MAINLY FINE TO MEDIUM SAND (S 1 2 3)

THERMOKARST DEVELOPMENT LARGE FLAT BASINS AND PONDS IN TRANSIENT WATER AND OR PEAT (S 2 3 d 2 3 3-5)

PEATS (S 1 2 3 d 2 3 3-5)

DRAINAGE PATTERNS LESS THAN 1 FT OF ALLUVIAL DRIFT MAINLY FINE SOME SILTY LACUSTRINE DEPOSITS OVER BEDROCK BEDROCK (S 1 2 d 1 2 3 3-5)

SHALLOW (1 TO 15 FT) BUT GENERALLY LESS THAN 10 FT SILTY CLAY OVER BEDROCK AND PATTERNED TERRAIN TYPES (SLOPE FEATURES) (S 2 3 d 2 3 3-5)

SPECIAL TERRAIN

SPECIAL TERRAIN ALSO CALLED PEAT PLATEAUS 3 TO 12 FT OF PEAT (S 2 3 d 2 3 3-5)

UNPATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 1 3 d 1 3)

SPP NO DISCS HAS ALSO CALLED PATTERNED OR PIBBOLD FEN COMMONLY 3 TO 5 FT AND EXCEPT SMALL UP TO 15 FT OF PEAT (S 3 4 d 3 4)

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A23489	187,185,184
A23488	83,84

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	
	APR 4 1974	CENTRA.	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1 M

DATE	MARCH 3 1975
SCALE	1" to 2000'
DRAWN BY	Wellhausen
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

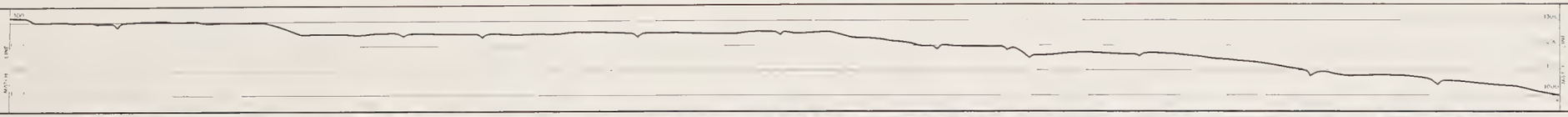
DRAWING/PLAN No 0500-03

SHEET 3 OF 19

FILE No

DRILL HOLE DATA

PROFILE
PIPELINE ——
ACCESS ROAD - - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

A ALTN. ROAD TO SUMMIT SITE ALTERNATE WINTER ACCESS TO BORROW AREAS. W. 1/2 SEC. 1 (DWG. NO. 1-25)

MATCH

OWNER & DRAINAGE

MP 627.2

MP 628

MATCH

DESIGN DATA

FOOTAGE THIS SHT.

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldr Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i trace 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock	Gs Grass	Mx Mixed
c course	Lcd layered	org organic
cvr cover	lyrd layered	xpg expansion
f fine	m medium	xvr revert

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

GREAT SLAVE PLAIN PHYSIOGRAPHIC SUBDIVISION (LOWLAND PLATEAU PORTION)
(LOWLAND PLATEAU PORTION)

AFD ALLUVIAL FAN DEPOSITS POORLY SORTED SILT SAND GRAVEL SOME COB

ANM ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND OF STRATUM GENERALLY LESS THAN 1 FT THICK OVERLAIN BY SOME SORTED SAND AND GRAVEL OVERTOP

BR MOUNTAIN TERRAIN ROCKS AND NEARBY STEEP MOUNTAINSIDES

EAF ENLARGING ALLUVIAL FANS ICE RICH POORLY SORTED BRISK GRAVEL SAND AND GRAVEL (S 2a3 J 2a3b 2 2a4

L DELTAIC TIDE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS (S 3 J 3 2a3

LT DELTAIC COARSE AND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL

LOOP PLAIN MOSTLY THICK ICE RICH SILTY FOR THAT MAY BE SAND AND GRAVEL WITH CORE IS ASSOCIATED WITH LARGER FAN

R GLACIAL LAKE BASIN BETTER DRAINED TYPE CENTRAL SUBSTRATA IS WEEK UNTO SOMEWHAT PLASTIC SILTY CLAY AND SAND WITH FEW OR NO THERMOKARST FEATURES (S 2 3a4 J 2a4b 2 4

GLB 2 GLACIAL LAKE BASIN TYPICAL SILT TYPE ICE RICH SILT WITH ICE RICH MEDIUM SEDIMENTS

OTHER REGIONS (S 1 2a3 J 2a3b 2 2a4

COMPOSED OF TILLS (S 1a2 J 1a2 3

TS TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ANICE RICH SILT MATRIX (S

EGEANWHILE DEPRESSION TERRAIN TYPE

AB ABANDONED (SEASONAL) FORMER GLACIAL LAKE SHORE NEE VAR ABLE

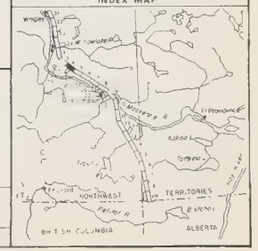
WC WATER CHANNEL SAND ABANDONED MACKENZIE RIVER CHANNELS VAR IABLE FINE TO COARSE WATER AIS (S 3 3 J 3a4 2a3

OLD AND RECENT SLOPE FAILURES IN OLD AND SLUMPS (TYPICALLY SAND

THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS IN STAG

BIMODAL COLLUVIUM CONSISTS OF FILL OF A BEDROCK NOOK OR FILLED WITH COBBLES AND GRAVEL

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOG STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2 5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.640 W.T GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 23489	33,34,83,84,85,86

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE (440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
	APRIL 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 C.S. M.S.

DATE	MARCH 3 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

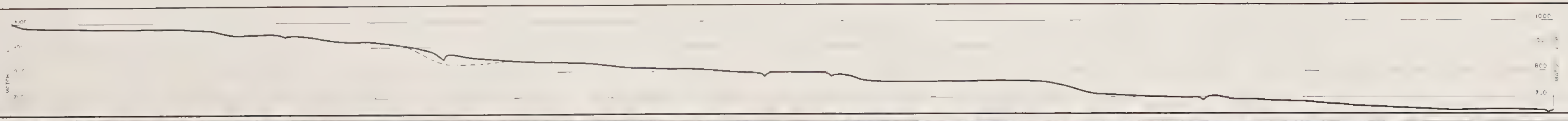
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING NO. 0500-04

SHEET 4 OF 19

DRILL HOLE DATA

PROFILE — PIPELINE — ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble s	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Ms Moss
c course	lncd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vvd varved

CONSTRUCTION DESIGN — REFERENCE DRAWING & NOTES — CONSTRUCTION CHAINAGE — DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	
METER STATION		TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF		EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A23487	174, 175, 176
A23488	35, 36

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE

NO.	DATE	REVISION	APP'D
	APR 5 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

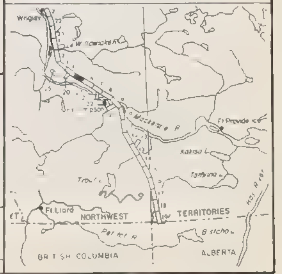
0 — 0.5 — 1.0 Miles

DATE	MARCH 3 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING PLAN No. 0500-05 — SHEET 5 OF 19 — FILE No.

INDEX MAP



DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD — —

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S Sand
M Silt
cbl(s) cobble(s)
C Clay

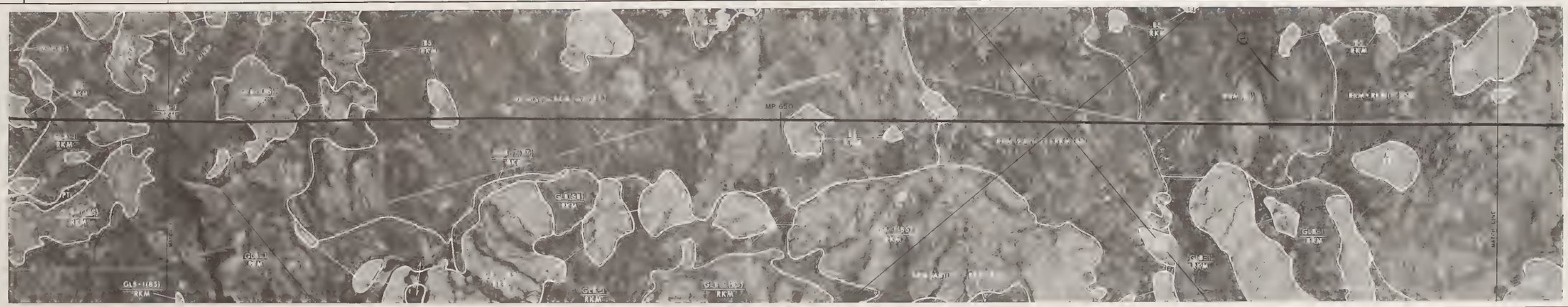
O - Organic
H High plasticity
Pt Peat
P - Poorly graded
bldrs - Boulders
W Well graded

ABBREVIATIONS
M NOR SOIL COMPONENT PERCENTAGES

e and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

BRK - bedrock
c coarse
cov cover
f fine
Gl. Glass
Lnsd lensed
lyrd layered
m medium
Ms Moss
s - sand
sd - sandy
sty layered



CONSTRUCTION DESIGN

REFERENCE DRAWING NUMBER

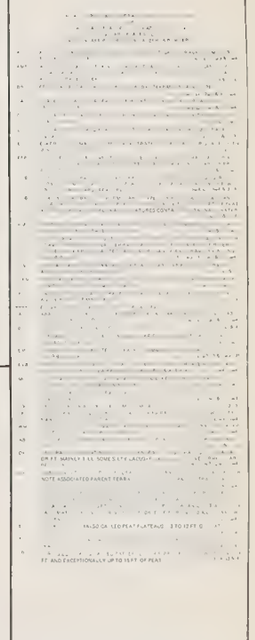
INTERSECTION CHAINAGE

DESIGN DATA

MATCH LINE

FOOTAGE
THIS
SHEET

UTM GRID ZONE 10



INDEX MAP

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIA

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.548 W.T GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO.
A23483	23,24,25,26 53,54 174,175

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
1	APRIL 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
BJPV ENGINEER	

TITLE ALIGNMENT SHEET FOR *GREAT SLAVE PLAIN* PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0500-06
SHEET 6 OF 19
FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE
PIPELINE ACCESS ROAD

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE (km)

DESIGN DATA

UTM GRID ZONE 10

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Low plasticity
S Sand
M Silt
cb(s) cobble(s)
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
bld(s) Boulder(s)
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
l - little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock
c round
gr coarse
f fine
Gr Gross
Lmd mound
frd fractured
m medium
Mt Mass
org organic
vfg very fine grained
vrd rounded

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
COMPRESSOR STATION WITH CHILLING
METER STATION
MATERIAL STOCKPILE SITE
PROPOSED PERMANENT WHARF
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
PROPOSED HIGHWAY
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE. THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 23463	53, 54, 55, 56, 94, 95, 96

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE (440 PSI)
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
	SEPT 6 '77	PRELIMINARY	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

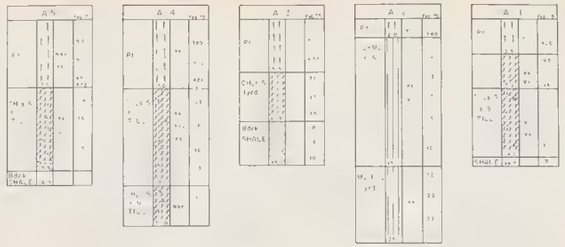
0 5 10 Miles

DATE
SCALE
DRAWN BY
CHECKED BY
APPROVED BY
SUPV. ENGINEER

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

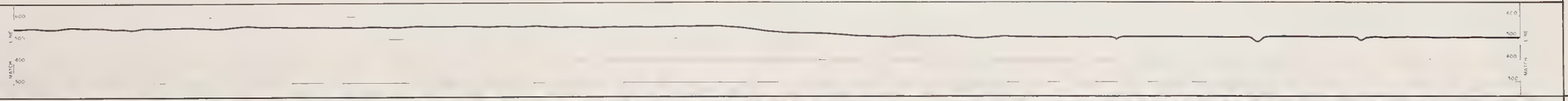
DRAWING PLAN No. 0500-07
SHEET 7 OF 19
FILE No.

DRILL HOLE DATA



PROFILE

PIPELINE ——— ACCESS ROAD - - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES — MATCH LINE — ACCESS ROAD TO BORROW AREA (SEE DWG. NO. PC-3-1)

CONSTRUCTION CHAINAGE — MP 679 — MP 679.1

DESIGN DATA

FOOTHILLS PIPE LINES LTD. — NORTHWEST TERRITORIES — MAINLINE ROUTE

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cb(s) cobble(s)	bldr Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

s and 35 to 50%	l little 10 to 20%
s some 20 to 35%	L trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Mx Moss
c coarse	Lnd layered	org organic
cv cover	lyrd layered	vg vegetation
f fine	m medium	wd wooded

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

(WHAT BUFFALO RIVER PLAIN, ETC. INCLUDING L AND PLATEAU DIVISION)
■ COMPARE WITH TO WHAT ALBERTA BORDER

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COB
B 1 2 3 4 5 6 7 8 9 10

AMP ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOP STRATUM GENERALLY LESS THAN 5 FT THICK OVER 3 5 FT THICK ALLUVIAL SAND AND/OR GRAVEL OVER TILL
B 1 2 3 4 5 6 7 8 9 10

BR BEDROCK TERRAIN WITH LIGHT SANDY AND/OR GRAVELLY MOSTLY STEEP SLOPES
B 1 2 3 4 5 6 7 8 9 10

CAF PLEISTOCENE ALLUVIAL FAN ICE RICH FINE SAND AND SILT WITH SOME SILTY SAND AND GRAVEL
B 1 2 3 4 5 6 7 8 9 10

DL DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS
B 1 2 3 4 5 6 7 8 9 10

DLC DELTAIC COARSE AND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL BLOCKS
B 1 2 3 4 5 6 7 8 9 10

E ESKER RIDGE MAINLY COMPLEX STRATIFIED SAND AND OR GRAVEL WITH MINOR SILT LAYERING
B 1 2 3 4 5 6 7 8 9 10

FFP FLUVIO LACUSTRINE PLAIN MOSTLY THIN ICE RICH SILTY TOP STRATUM OVER ALLUVIAL SAND GRAVEL OR LACUSTRINE SAND
B 1 2 3 4 5 6 7 8 9 10

GLB LACUSTRINE BASIN WITHIN MAINLY TYPES INCLUDING ICE RICH FINE SAND SILT AND CLAY
B 1 2 3 4 5 6 7 8 9 10

GLBT LACUSTRINE BASIN THE PREDOMINANT TYPE POORLY ORGANIZED SAND AND GRAVEL OVERLAIN BY FINE SAND SILT PLUS CLAY BELOW THE PRESENT LEVEL OF THE LAKE WITH MINOR AND TRANSITIONAL FEATURES DESCRIBED ABOVE AND TO DEPTH
B 1 2 3 4 5 6 7 8 9 10

KM KAME MOUNTAIN MORAINE KNOB AND KETTLE MORAINE COMPOSED OF TILL WITH MINOR SAND AND GRAVEL INCLUSIONS
B 1 2 3 4 5 6 7 8 9 10

KT KEEL TERRACE UP TO 50 FT SILT OVER DISSECTED PLAIN OF FINE SAND AND/OR GRAVEL WITH MINOR DISTRIBUTION OF ERRATIC BOULDERS TILL MAINLY IN STRATA LACUSTRINE EROSIONAL TERRACE MORE SANDY ANGULAR GRAVEL STRATIFIED WITH MINOR SILTS
B 1 2 3 4 5 6 7 8 9 10

OW OUTWASH OUTWASH STRATIFIED FINE SAND AND/OR GRAVEL AND OR SAND WITH SOME SILT
B 1 2 3 4 5 6 7 8 9 10

PLM PLEISTOCENE MOUNTAIN PLATEAU WITH ALPINE FEATURES MOUNTAIN MORAINE TILL
B 1 2 3 4 5 6 7 8 9 10

TC TERRACE SQUARE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ANGULAR MATERIAL
B 1 2

AG AGRICULTURAL PATTERNED FIELDS
B 1 2 3 4 5 6 7 8 9 10

BD BRAIDED DRAINAGE PATTERN IN ICE RICH SILTY SOIL
B 1 2 3 4 5 6

CP CONTOUR PLOWING
B 1 2 3 4 5 6 7 8 9 10

DR DRAINAGE
B 1 2 3 4 5 6 7 8 9 10

E-R ESKER RIDGE
B 1 2 3 4 5 6 7 8 9 10

MC MOUNTAIN MASSIVE SPRUCE MORAINE BREAKER BOULDERS OVERLAY GRAVELLY TILL OVER FOLDED MATERIALS
B 1 2 3 4 5 6 7 8

CO CONTOUR PLOWING
B 1 2 3 4 5 6 7 8 9 10

SD SAND DUNE
B 1 2 3 4 5 6 7 8 9 10

TR TRANSMISSION LINE
B 1 2 3 4 5 6 7 8 9 10

WW WASHED GRAVEL OVER SAND FOLDED GRAVEL WASHED OVER SAND
B 1 2 3 4 5 6 7 8 9 10

AD ALLUVIAL DRAINAGE GRAVELLY SAND DISTRIBUTION TILL OVER DOCUMENT FILL
B 1 2 3 4 5 6 7 8 9

D1 GENERALLY DISCONTINUOUS IN 1 GENERALLY LESS THAN 10 FT GLACIAL OR FLUVIAL TILL SOME SILTY LACUSTRINE DEPOSITS OVER BREAKER BOULDERS
B 1 2 3 4 5 6 7 8 9 10

SH SHORELINE
B 1 2 3 4 5 6 7 8 9 10

- DRAINAGE DISTRIBUTARY DRAINAGE FOCUS GULLIES FILLED AND PARTIALLY DRAINED SOUTH LINES OF A BROADLY ARCUATE SLIP
B 1 2 3 4 5 6 7 8 9 10

- WATER STORAGE FOR FLOODING OF ICE RICH ORGANIC SILT AND SILTY CLAY WITH A SHALLOW FLOOD SILT OVERLAIN BY WOODED AREAS
B 1 2 3 4 5 6 7 8 9 10

B PRESENCE OF ICE RICH FINE SAND SILT OVER ICE RICH ORGANIC SILT
B 1 2 3 4 5 6 7 8 9 10

P SPRUCE FORESTED PEAT LAND NORTH FACING SLOPES OFTEN EXTENSIVE 3 TO 15 FT OF PEAT
B 1 2 3 4 5 6 7

R SPRUCE FORESTED PEAT LAND PATTERNED OR RIBBED TENS COMMONLY 3 TO 10 FT AND SUBTERRANEAN PATTERNED OR RIBBED TENS COMMONLY 3 TO 10 FT OF PEAT
B 1 2 3 4 5 6 7 8 9 10

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE NOTED

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

ROLL NO 6.20327 — PHOTO NO 4-143 144

OPERATING LICENSE NO

MAXIMUM TEST PRESSURE

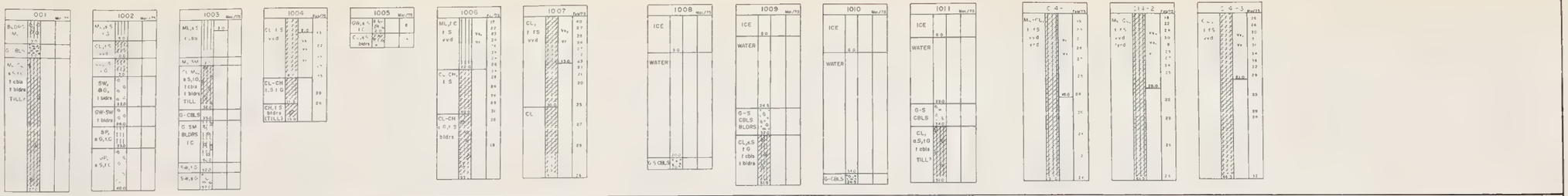
MAXIMUM OPERATING PRESSURE 1250

DATE	MADE BY	STD
		22.0
DRAWING PLAN NO		
DRAWN BY		
CHECKED BY		
APPROVED BY		
DATE		

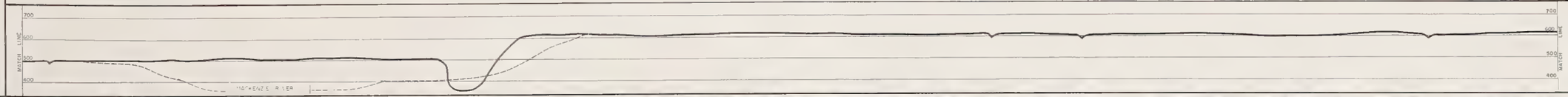
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING PLAN NO 0500-08 FILE NO

DRILL HOLE DATA



PROFILE



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
S - Sand
M - Silt
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
s - some 20 to 35%
l - little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk - bedrock
c - coarse
cov - cover
f - fine
Gs - Grass
Lsd - lensed
lyrd - layered
m - medium
Mss - Moss
org - organic
veg - vegetation
vvd - varved

CONSTRUCTION DESIGN

REFERENCE DRAWING	MATCH LINE	OFF R/W ACCESS AND STOCKPILE SITE	MACKENZIE RIVER X INGS. SEE DWG 0500-02	C 4 - C 13-2 - C 4-3 - ACCESS ROAD (PIPE) SEE DWG 0500-12 & DWG 14	
CHAIN (FROM PRELIMINARY)	MP 682.0	MP 684.4	MP 686.1	MP 686.7	MP 690.3	MP 695

DESIGN DATA

UTM GRID ZONE 10

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D x 0.640 W.T. GRADE 70
HEAVYWALL - 42" O.D x 0.720 W.T GRADE 70
EXTRA HEAVYWALL - 42" O.D x 0.865 W.T GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A 22427	143,144,145
A 21526	164,165,166

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APP'D
1	APRIL 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

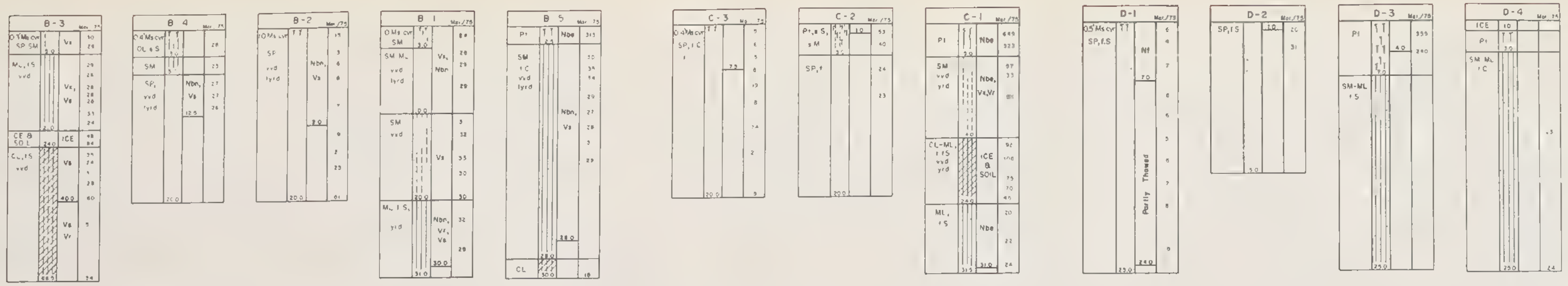
MAINLINE ROUTE

0 0.5 1.0 Miles

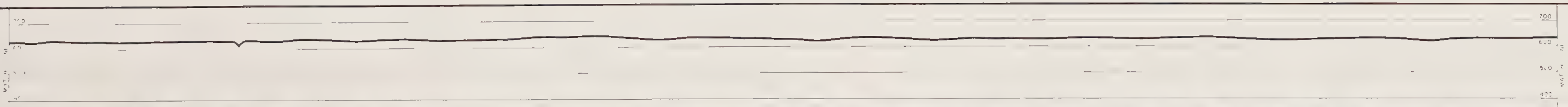
DATE MARCH 3, 1975	TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION
SCALE 1" to 2000	
DRAWN BY	
CHECKED BY	
APPROVED BY	DRAWING PLAN No. 0500-09
SUPV. ENGINEER	SHEET 9 OF 19

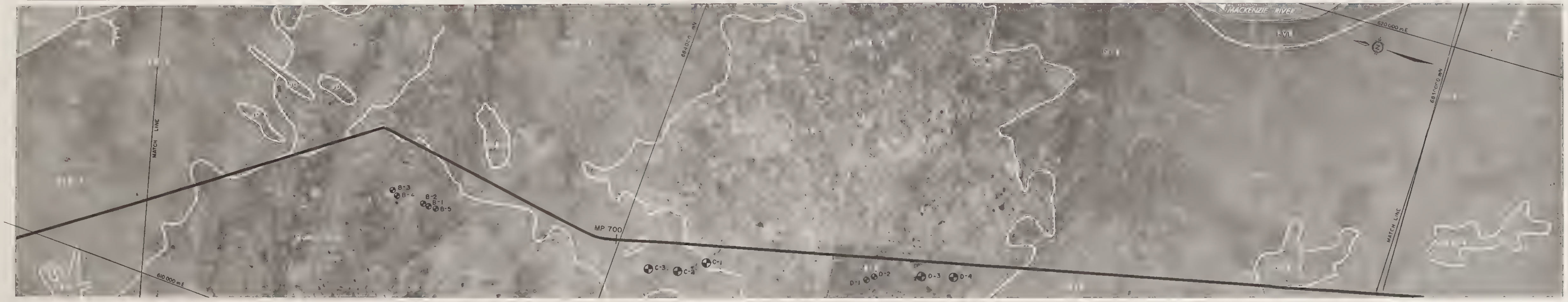
INDEX MAP

DRILL HOLE DATA



PROFILE — PIPELINE / ACCESS ROAD





REFERENCE DRAWING & NOTES — MATCH LINE

CONSTRUCTION CHAINAGE

CONSTRUCTION DESIGN — DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobbles	bldrs Boulders
C Clay	W Well graded

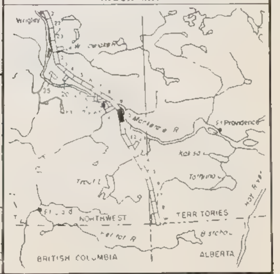
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%	l - little 10 to 20%
s - some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Ms Moss
c course	Lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vrd varved

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	—	CONSTRUCTION CAMP (TEMPORARY)	Ⓒ
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	
METER STATION		TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF	Ⓦ	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF	▲	BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER 42" O.D x 0.540 W.T GRADE 70
HEAVYWALL - 42" O.D x 0.720 W.T GRADE 70
EXTRA HEAVYWALL - 42" O.D x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 21526	164 - 167
A 22428	139, 140, 141

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
1	APR 5 1975	GENERAL	

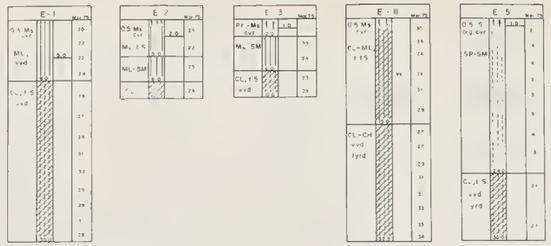
FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

DATE	MARCH 3 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR *GREAT SLAVE PLAIN* PHYSIOGRAPHIC DIVISION

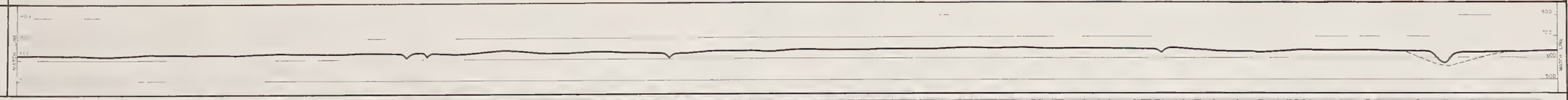
DRAWING/PLAN No 0500-10
SHEET 10 OF 19
FILE No.

DRILL HOLE DATA



PROFILE

PIPELINE ——
ACCESS ROAD - - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES — MATCH LINE

CONSTRUCTION CHAINAGE — MP 709.6 — MP 720.3

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
cbl(s) cobble(s)
C - Clay

O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldrs Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
E - little 10 to 20%
s - some 20 to 35%
L - trace 1 to 10%

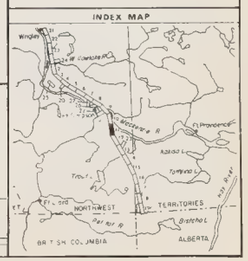
MISCELLANEOUS ABBREVIATIONS

Bdk bedrock
c coarse
ext extent
f fine
Gs Grass
L/sd tened
tyrd tapered
m medium
Ms Moss
org organic
veg vegetation
vvd varved

TERRAIN TYPES AND TERRAIN SENSITIVITY LEGEND

[illegible]

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2 5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O D x 0 540 W T GRADE 70
HEAVYWALL 42" O D x 0 720 W T GRADE 70
EXTRA HEAVYWALL 42" O D x 0 865 W T GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A 22429	165,166,167,168
A 21551	19,20,21
A 23487	73,74,75

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PS
MINIMUM TEST PRESSURE 800 PSI
MAXIMUM OPERATING PRESSURE 2-0 PS

NO	DATE	REVISION	APP'D
	APR 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

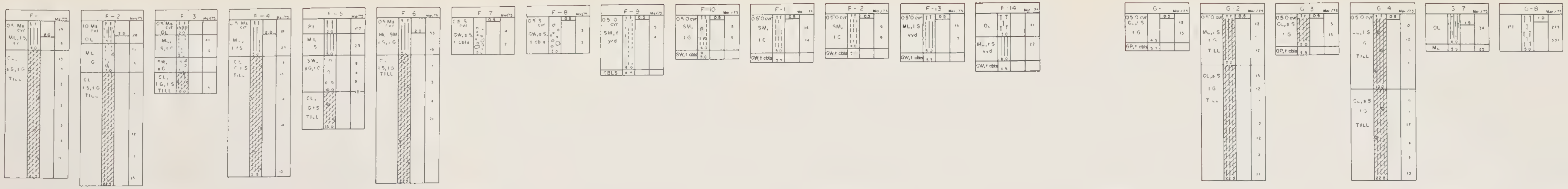
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

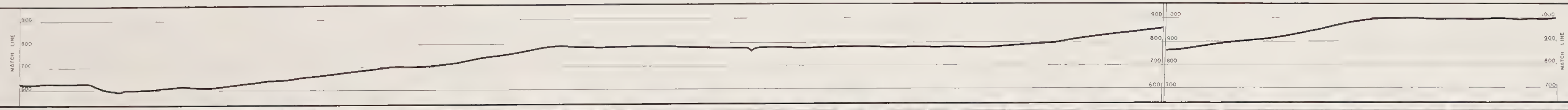
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No 0500-11
SHEET 11 OF 19

DRILL HOLE DATA



PROFILE
PIPELINE
ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H - High plasticity
S - Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Ms Moss
c course	Lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vvd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION
INCLUDING ... AND PLATEAU DIVISION
WILLOWLAKE RIVER TO NWT ALBERTA BORDER

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS

C DELTAIC FINE ... PLAIN ... CLAY LAYER

G DELTAIC COARSE AND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL

E ESKER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL WITH MINOR SILT INCLUSIONS

FOSSIL FLOODPLAIN MOSTLY THIN ... SILTY TOPSTRATUM OVER ... SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH ... RIVERS

... LAKE BASIN THERMOKARST TYPE POORLY DRAINED SAND AND ... MEDIUM TO HIGHLY PLAST C SILTY CLAY WITH UP TO 5 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER

HUMMOCKY MORAINE KNOB AND KETTLE MORAINE COMPOSED OF TILL WITH ... AND AND GRAVEL INCLUSIONS

OTHER RIVERS

OUTWASH AND OR OUTWASH DELTA PLAIN TABULAR BODIES OF GRAVEL AND OR SAND WITH SOME SILT

... MORAINE ROLLING AND OR RIDGED GROUND MORAINE

TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ... SILT MATRIX

CREVASSE FILLINGS NARROW SUBLINEAR RIDGES OF SILT SAND GRAVEL AND ABLATION TILL

SAND DUNES MAINLY FINE TO MEDIUM SAND

THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT ...

SHALLOW 5 TO 15 FT BUT GENERALLY LESS THAN 10 FT SURFICIAL VENEER ... ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY

SPECKLED BOGS ALSO CALLED PEAT PLATEAUS 3 TO 12 FT OF PEAT

UNPATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	BORROW AREA (PHOTO INTERPRETATION)	MACKENZIE HIGHWAY ACCESS TO BORROW AREA AND STOCKPILE SITE	MATCH LINE
CONSTRUCTION CHAINAGE (miles)	MP 720 3		MP 725 9	MP 731
DESIGN DATA				

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	▬	CONSTRUCTION CAMP (TEMPORARY)	Ⓒ
COMPRESSOR STATION	Ⓒ	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	—Ⓐ—
METER STATION	Ⓜ	TEMPORARY ACCESS ROAD	--Ⓐ--
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	-------
PROPOSED PERMANENT WHARF	Ⓦ	EXISTING HIGHWAY	———
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF	▲	BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3 MINIMUM DEPTH OF COVER = 2 5 FEET
4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O D x 0.540 W T. GRADE 70
HEAVYWALL 42" O D x 0 720 W T GRADE 70
EXTRA HEAVYWALL - 42" O D x 0 865 W T GRADE 70

AERIAL PHOTOGRAPHS

ROLL NO	PHOTO NO
A 23487	73 74 75
A 21530	231,232,233
A 2.528	73,74,75

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
1	APR 5 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES
MAINLINE ROUTE

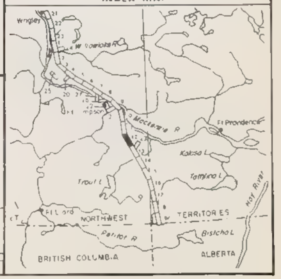
0 0 5 1 0 Miles

DATE	MARCH 3 1975
SCALE	1 to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

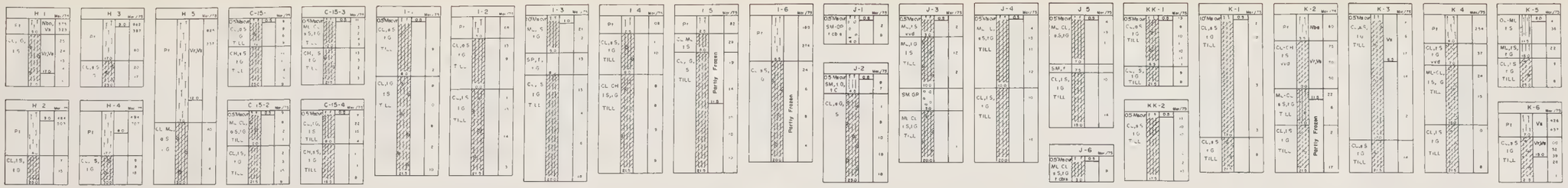
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No 0500-12
SHEET 12 OF 19
FILE No.

INDEX MAP



DRILL HOLE DATA



PROFILE

PIPELINE ——— ACCESS ROAD - - -

CONSTRUCTION DESIGN

REFERENCE DRAWING & SHEETS — MATCH LINE — C-15 ACCESS ROAD TO MACKENZIE HIGHWAY AND TOWNSITE FOR PIPE STORAGE CONDITIONS

CONSTRUCTION CHAINAGE — MP 737.0 — MP 746.1

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
S Sand — H High plasticity
M Silt — Pt Peat
C Clay — P Poorly graded
Bldr Boulders — W Well graded

ABBREVIATIONS MINOR SOIL COMPONENT PERCENTAGES

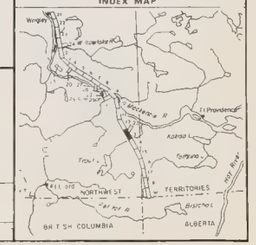
a and 35 to 50% — l little 10 to 20%
x some 20 to 35% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock — Gr Grass — Mu Muskeg
c coarse — Lmd limed — org organic
cov cover — lyrd layered — vary variety
f fine — m medium — vyd layered

TERRAIN MAP AND TERRAIN SENSITIVITY LEGEND FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION NORTHWEST TERRITORIES AND ALBERTA BORDER

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHS

ROLL NO.	PHOTO NO
A 21528	34,35,36,73,74,75
A 21549	200,201,202

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
1		GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

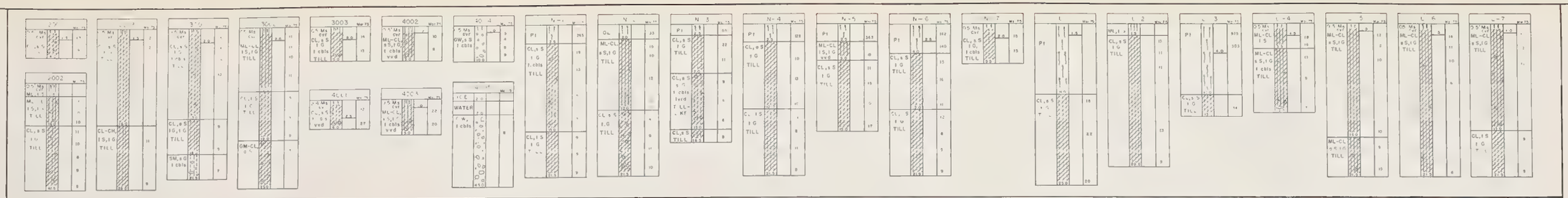
0 — 0.5 — 1 M

DATE	MARCH 1, 1975
SCALE	1 TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
DLPI ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING NO. 0500-13 — SHEET 3 OF 19 — REV. NO.

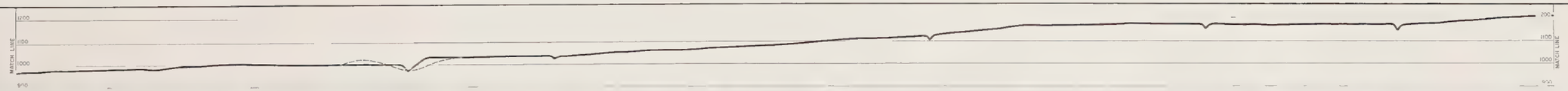
DRILL HOLE DATA

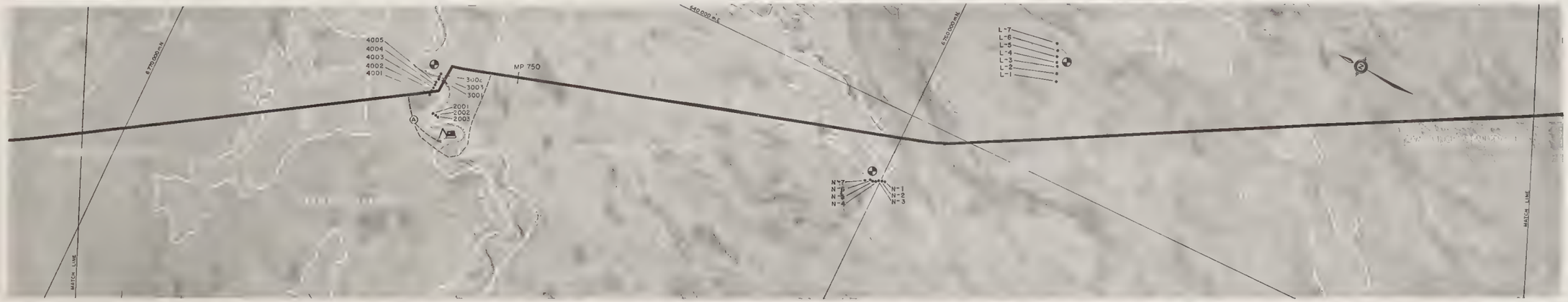


PROFILE

PIPELINE

ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE; 1/4 R. A. Rev. 1-75; 1/4 R. A. Rev. 1-75; BIGHORN ARM A (PHOTO INTERPRETATION); 1/4 R. A. Rev. 1-75; MATCH LINE; FOOTAGE THIS SHEET
CONSTRUCTION CHANGES & NOTES	MP 749.1; MP 749.9
DESIGN DATA	

UTM GRID ZONE 10

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHS

ROLL NO	PHOTO NO
A 21549	200, 201, 202
A 21549	167, 158, 159
A 21530	76, 77, 78

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE 1400 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

REV.	DATE	REVISION	APP'D
	1-75	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 5 10 Miles

DATE	MARCH 3, 1975
SCALE	1" = 1000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0500-14 FILE No.

SHEET 14 OF 19

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
(Bk) - Bedrock
C - Clay

O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
Bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
b - some 20 to 35%
c - little 10 to 20%
f - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
C - coarse
cov - cover
f - fine
Gr - Grass
Lngd - lensed
lyrd - layered
m - medium
mtl - material
reg - regular
rel - relief

TERRAIN FORMS AND FORM ...

PREFIX SYMBOLS FOR PHYSIOGRAPHIC DIVISION
(EXAMPLE: GSP - GREAT SLAVE PLAIN)
NT - YOHANLEY RIVER POINT ALBERTA BORDER

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 2a3 u1 2w3d 2w6)

AMP ALLUVIAL MEANDER PLAIN ICE RICH URBANIC SILT AND FINE SAND TOP ... LESS THAN 5 FT. TO OVERLAID BY ... (S 2 3 u2 3 2w3d 3w6)

BR ... ROCKS AND NEARBY STEEP MOUNTAIN SLOPES

CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC SILT ... (S 2 3 u2 3 2w3d 3w6)

DL DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS (S 2 u2 2w3d)

DLU DELTAIC COARSE AND PLANIC FINE TO COARSE SAND WITH SOME GRAVEL SIZES (S 1 3 u1 2 2 3)

E ESKER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND ICE RICH GRAVEL WITH ... (S 1 2 3 u1 3)

FFP FOSSIL FLOOD PLAIN MOSTLY ICE RICH SILTY FORESHALLOW AREAS SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGER RIVERS (S 1 3 u1 2 3 2 2w3)

GLB 1 GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLY SLOPE NEGLECTING STRATIF (S 1 3 u1 2 3w4 2 3w3 4)

GLB 2 GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED SAND AND ICE RICH MEDIUM TO HIGH PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND DEEPENED THAWING AND FEATURES (S 2 3 u1 2 3 2w3 3w4)

HM HUMMOCKY MORAINE KAME AND KETTLE MORAINE COMPOSED OF TILL WITH MINOR SAND AND GRAVEL INCLUSIONS (S 1 3 u1 2w3d 2 2w3)

MT MOUNTAINS UP TO 15 FT SILT OVER BEDROCK THINNER IN SAND AND OR GRAVEL ... (S 1 2w3 u1 2w3d 2 2w3)

PR PRIDE AND NOLL MORAINE HILL AND OR RIDGED ... COMPOSED OF HILLS (S 1 2w3 u1 2 3 2w3 3)

SR SAL RIDGES QUARTZ GRAVEL AND ANGULAR BOULDERS OFTEN WITH ... (S 1)

AD ABANDONED DRAINAGE LINES FORMER GLACIAL LAKE SHORE ... (S 1 2w3 u1 2w3d 2 2w3)

FD BEADED DRAINAGE PATTERN ICE RICH SILTY SOIL (S 2 3 u3 4)

FR FRONTAL RIDGE FEATURES NARROW SINUOUS RIDGES OF SILT SAND GRAVEL AND ABLATION TILL (S u1 2w3)

ER ROLLING TERRAIN ... (S 1 3 u1 2 3 2w3 3)

ES BADLANDS BARREN ... (S 1 2w3 u1 2w3d 3)

MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS ... (S 1 3 u1 2w3 2w3)

DSD OLD AND RECENT SLOPE FAILURES SLUMPS AND SLUMPS COMMONLY SAND ... (S u1 2w3 3)

SD SAND DUNES ... (S 1 2 u1 2w3)

T THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 2 3 u2 3w4)

MW MAKE MODIFIED TILL MAINLY ATH N SANDY TO GRAVELLY MAINED LAYER OVER TILL OR LACUSTRINE DEPOSITS (S 2 3u3 u2 3w4)

STD STILT OR LOOSE GRAVELLY SAND SILT ABLATION TILL OVER DECAYING TILL (S 1 3 u1 2 3 2)

T TILLY BOSCHIN HOLLOW TERRAIN GENERALLY LESS THAN 10 FT TO LARGE TIMBERLY TILL SOME SILTY LACUSTRINE DEPOSITS OVER PRECULAR ROCK (S 1 u2 2w3 u3d 3w6)

SH SHALLOW LT TO 15 FT BUT GENERALLY LESS THAN 10 FT SLIM DRAINAGE NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRAT GRAPH ALCALINE PREFIX (S 3 3w4)

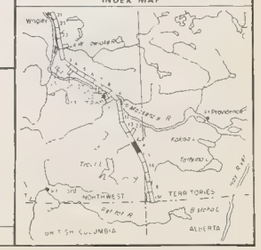
SL SLOPE RAIN EFFECTS BOTH EROSIONAL NUMEROUS GULLIES RUSH AND SUPPORT DRAINAGE COLLUVIUM CONSISTS OF ICE RICH SILTY SAND SILT FLUVIAL LAYER 2 TO 15 FT CONSISTING OF ICE RICH CLAY SILT AND SILTY SAND MATERIALS ... (S 1 2 u1 2w3d 2 2w3)

BS SPECULIZED ROCK FIELDS GALLED PEAT PLATEAUS 3 TO 12 FT OF PEAT (S 3 u2 3)

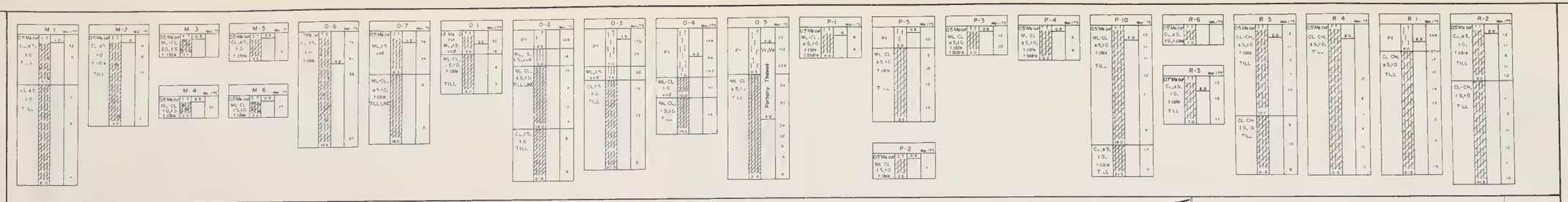
GARSTERED PEATLAND NORMALLY ... EXTENSIVE 3 TO 3 FT OF PEAT (S 3 u2 3)

PL PALSA BOGS SOCALLED PATTERNED GRAVELLY ... (S 3 u3)

INDEX MAP

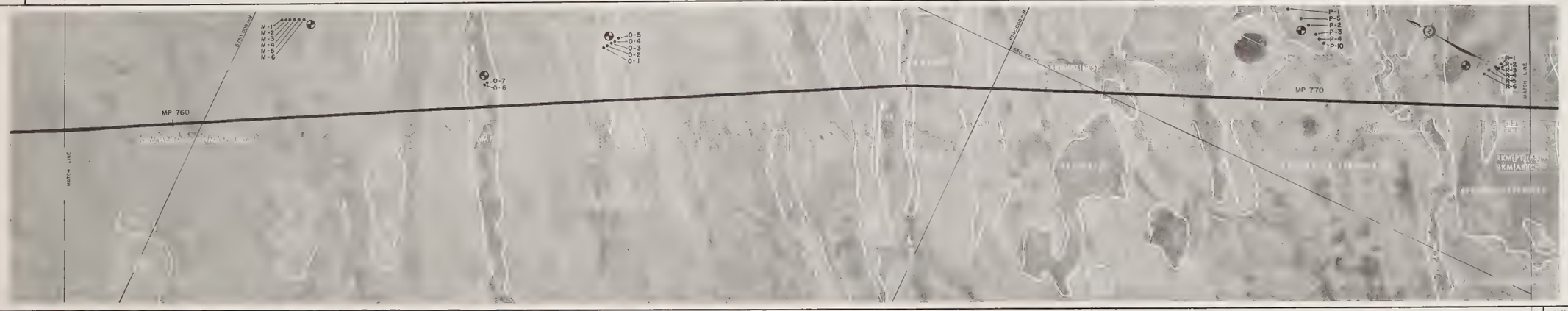


DRILL HOLE DATA



PROFILE

PIPE LINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHANGE CONTROL

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — P Peat
M Silt — P Poorly graded
cbbl cobble sil — b-drs Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — t - trace 10 to 20%
s some 20 to 35% — tr trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock — Gr Grass — Mo Moss
c coarse — Lmd limed — org organic
cov cover — lyrd layered — veg vegetation
f fine — m medium — wvd waved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION
(INCLUDING LIARD PLATEAU DIVISION)
(WILLOW LAKE RIVER TO NWT-ALBERTA BORDER)

AFD ALLUVIAL FAN DEPOSIT - POORLY SORTED SILT, SAND, GRAVEL, SOME COBBLES AND BOULDERS (S 1 2a3 if 2a4 & 3a6)

AMP ALLUVIAL MEANDER PLAIN - ICE RICH ORGANIC SILT AND FINE SAND TOP STRATUM GENERALLY LESS THAN 6 FT THICK OVER SOMETIMES SAND AND/OR GRAVEL OVER TILL (S 1 2 if 3b2 4)

BR BEDROCK TERRAIN - RIDGES AND NEARBY DEEP MOUNTAINS TYPES

GAT VOLCANIC ALLUVIAL FAN - ICE RICH POORLY SORTED PEAT, CLAY, SILT, SAND AND GRAVEL (S 2a3 if 1a3b 3 2a4)

DL DELTA FINE SAND PLAIN - ICE RICH FINE SAND AND SILT WITH SOME DISTURBED LAYERS (S 2 if 3a4)

DLc DELTA COARSE AND PLAIN - FINE TO COARSE SAND WITH SOME GRAVEL (S 1 2 if 2b3 3)

E ESKER RIDGE - MAINLY COMPLETELY STRATIFIED SAND AND OR GRAVEL WITH MINOR SILT INCLUSIONS (S 1 2 if 3)

FFP [illegible]

G B GLACIAL LAKE BASIN - BETTER DRAINED TYPE GENTLY SLOPING STRATIFIED SILT UNTO HIGHLY PLASTIC SILTY CLAY AND SAND [illegible] OR NO THERMOKARST FEATURES (S 2 3a4 if 1a4 3 4)

GLD GLACIAL LAKE BASIN - THERMOKARST TYPE POORLY DRAINED SAND AND ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY [illegible] THAW TO 1 FT OF PEAT AND ORGANIC THERMOKARST FEATURES COMMON VS STRAIGHT BARRENS

[illegible] MORAINE - KNOB AND KETTLE MORAINE COMPOSED OF TILL WITH MINOR SAND AND GRAVEL INCLUSIONS (S 1 3a4 if 2a4b 2 3a6)

[illegible] PLAINS - UP TO 15 FT RELIEF OVER DISCONTINUOUS THIN SAND AND OR GRAVEL OVER DISTRIBUTIONAL TERRACES ABOVE ALL THE MAIN RIVERS OR ON OTHER PROVINCIAL TERRACES MORE SANDY AND GRAVELLY ALONG OTHER RIVERS (S 1 2a3 if 2a4b 2 3a6)

[illegible] TRASH AND DRIFT TRASH - FLAT, [illegible] AND OR SAND WITH SOME SILT [illegible]

[illegible] RIDGE AND KNOLL MORAINE - ROLLING AND OR RIDGED GROUND MORAINE COMPOSED OF TILL (S 1a2 3 2a3 3)

[illegible] TALUS SLOPES - COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH [illegible]

[illegible] ESCARPMENT - S DEPENDS UPON TERRAIN TYPES ABANDONED STRANDLINES - FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1 2a3 if 2a4b 3 2a6)

[illegible] OPEN MUSKEG - NARROW SHELVES OF PEAT OVER SILT SAND AND GRAVEL TILL (S 2 3a6)

[illegible] OLD AND RECENT SLOPE FAILURES - SLIDES AND SLUMPS COMMON

[illegible] SAND DUNES - MAINLY FINE TO MED. SAND

[illegible] THERMOKARST DEVELOPMENT - LARGE THAW BASINS AND PONDS IN THE PEAT

[illegible] OF LOOSE GRAVELLY SAND SILT ALBAT ON TILL OVER LOOSE MATERIAL (S 1 2 if 2b2 3)

[illegible] OR FT MAINLY FINE SOME SILTY LACUSTRINE SILT OVER TILL OVER BREECCIA (S 1a2 2a3 3a6)

[illegible] DIFFERENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY

[illegible] LAYER 3 TO 15 FT CONSISTING OF ICE RICH ORGANIC SILT AND SILTY ON PEAT (S 2 3a6)

[illegible] SPOTTED RIDGES (ALSO CALLED PEAT PLATEAUS) [illegible]

INDEX MAP

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 21530	120, 121, 122
A 21551	84, 85, 86

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO.	DATE	REVISION	APP'D
	1974 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

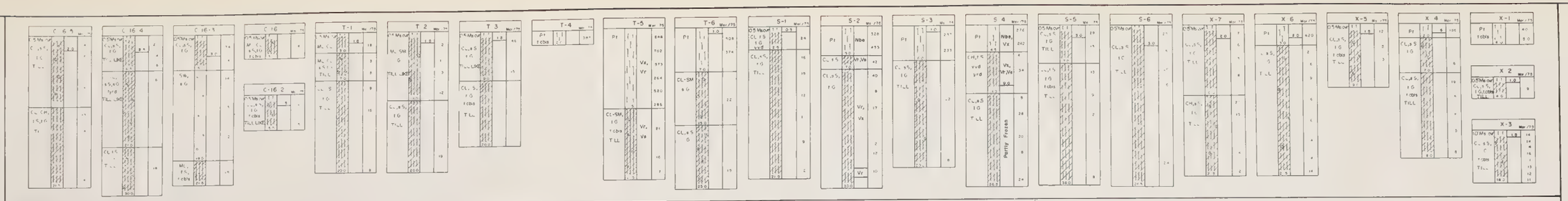
0 0.5 1.0 Miles

DATE	MARCH 3 1975
SCALE	1" to 2000'
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	[illegible]
SUPV. ENGINEER	[illegible]

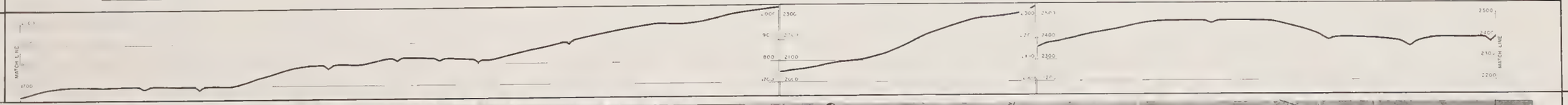
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0500-15
SHEET 15 OF 19
FILE No.

DRILL HOLE DATA



PIPE LINE ALIGNMENT



CONSTRUCTION DESIGN

REFERENCE DRAWINGS & NOTES

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cbs Cobbles — bldrs Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — 1 little 10 to 20%
s some 20 to 35% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock — Gr Grey — Mt Moist
c coarse — Lmd laminated — org organic
cov cover — lyrd layered — veg vegetation
f fine — m medium — vrd varved

TERRAIN STYLES AND TERRAIN TEXTURE LEGEND

PLEISTOCENE

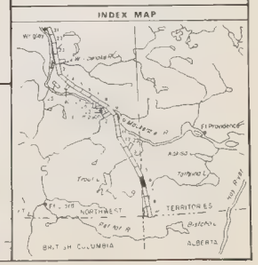
BLOCKS AND BOULDERS

ALLUVIAL BRANCH PLAIN, ICE RICH ORGANIC SILT AND FINE SAND TOP STRATUM GENERALLY LESS THAN 4 FT THICK OVER BOTTOM LOOSE SAND

COALESCING ALLUVIAL FANS, ICE RICH POORLY SORTED ORGANIC SILT SAND SILT

SUBLINEAR RIDGES OF SILT SAND GRAVEL

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER - 42" O.D. x 0.549 W.T. GRADE 70
HEAVYWALL - 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 21551	137,138,139
A 22438	166,167,168
A 21551	201,202,203

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1600 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO.	DATE	REVISION	APPD
1	1975-3-3	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

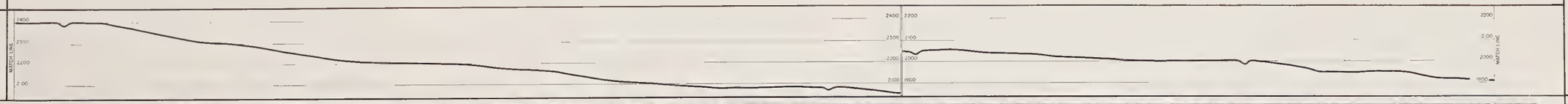
DATE	MARCH 3 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0500-16
SHEET 16 OF 39

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & POINTS — MATCH LINE — MATCH LINE

CONSTRUCTION CHAINAGE POINTS — 780 2 — 780 0

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10 & 11

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cb(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i - little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

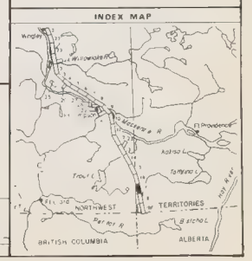
MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Ms Moss
c course	L/rsd removed	org organic
pvr covered	h/rd hardened	veg vegetation
f fine	m medium	vrd varied

REFER TO PROFILE AND TERRAIN SENSITIVITY LEGEND
FOR
GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION
IN LOW WOODED TERRAIN & BARREN AREAS

- ALLUVIAL FAN (EP) - POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (B 1 2x3 J1 2x3 B 2x4)
- ALLUVIAL MEANDER PLAIN (VE) - HIGH ORGANIC SILT AND FINE SAND TOP STRATUM GENERALLY LESS THAN 5 FT THICK OVER DISCOAT MUDDY SAND AND OR GRAVEL OVER TILL (B 1 2 J1 2B 2 E)
- BEDROCK TERRAIN - RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (B 1 2x3 J1 2x3B 2 2x4)
- COLLUVIAL MATERIAL FAN - (CE) - IMPROPERLY SORTED ORGANIC SILT SAND AND GRAVEL (B 2x3 J1 2x3B 2 2x4)
- DELTAIC FINE SAND PLAIN - (DE) - FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS (B 2 2 2x3)
- DELTAIC COARSE SAND PLAIN - FINE TO COARSE SAND WITH SOME GRAVEL (B 1 2 J1 2)
- [illegible] COMPLEXLY STRATIFIED SAND AND OR GRAVEL WITH [illegible] (B 1 2 J1 2)
- [illegible] PLAIN - MOSTLY WITH (DE) - FINE SILTY TO PEAT LAYERS (B 1 2 J1 2 2x3 2 2x4)
- GLACIAL LAKE BASIN - BETTER DRAINED THAN CENTRAL (LG) - MOSTLY FINE SILT AND SAND WITH SOME CLAY (B 2 2x3 2 2x4 2)
- GLACIAL LAKE BASIN - THE MOST WET TYPE - POORLY DRAINED SILT AND CLAY (B 2 2x3 2 2x4 2)
- GLACIAL LAKE BASIN - THE MOST WET TYPE - POORLY DRAINED SAND AND OR GRAVEL WITH OBJECTS ASSOCIATED WITH PLANT DETRITUS (B 2 2x3 2 2x4)
- GLACIAL LAKE BASIN - BETTER DRAINED THAN CENTRAL (LG) - MOSTLY FINE SILT AND SAND WITH SOME CLAY (B 2 2x3 2 2x4)
- GLACIAL LAKE BASIN - THE MOST WET TYPE - POORLY DRAINED SAND AND OR GRAVEL WITH OBJECTS ASSOCIATED WITH PLANT DETRITUS (B 2 2x3 2 2x4)
- GLACIAL LAKE BASIN - THE MOST WET TYPE - POORLY DRAINED SAND AND OR GRAVEL WITH OBJECTS ASSOCIATED WITH PLANT DETRITUS (B 2 2x3 2 2x4)
- [illegible] - KNOB AND KETTLE WORK (KE) COMPOSED OF TILL WITH [illegible] (B 1 2 J1 2x3 B 2 2x4)
- [illegible] UP TO 15 FT OF TILL OVER DISCOAT MUDDY FINE SAND AND OR [illegible] (B 1 2 J1 2x3 B 2 2x4)
- [illegible] - (DE) - FINE SAND AND SILT WITH MADE ENTRY IN CLOSED KETTLE OR [illegible] TERRACES SOME SANDY AND GRAVELLY MATERIAL (B 1 2x3 J1 2x3 B 2 2x4)
- [illegible] - (DE) - FINE SAND AND SILT WITH MADE ENTRY IN CLOSED KETTLE OR [illegible] TERRACES SOME SANDY AND GRAVELLY MATERIAL (B 1 2x3 J1 2x3 B 2 2x4)
- GLACIAL FAN AND OUTWASH DELTA PLAIN - FAIRLY WELL DRAINED GRAVEL AND OR SAND WITH MINOR SILT (B 1 2 J1 2x3 B 2 2x4)
- [illegible] - ROLLING AND OR HILLY GROUND MOSTLY COMPOSED OF TILL (B 1 2x3 J1 2)
- [illegible] - COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH [illegible] (B 1 2)
- [illegible] - SEDIMENTS UNDER TERRA (TERR)
- ABANDONED STRANDLINES - FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (B 1 2x3 J1 2x3 B 2x4)
- BEACHES OR RACE PATTERN - (CE) - IMPROPER SOIL (B 2 2 2x3)
- [illegible] - (MOSTLY LESS THAN 5 FT OF TILL) (B 1 2 J1 2x3 B 2x4)
- EROSIONAL VALLEY BANKS - LOCALLY CHANGED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAM EROSION - VARIABLE MATERIALS (B 1 2x3 J1 2x3)
- MEL TWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS - VARIABLE FINE TO COARSE WATER ALS (B 2 2 2x3 J1 2x3)
- DEEP AND RECENT SLOPE FAILURES - SLIDES AND SLUMPS - COMPOSED OF SAND OVER SILTY CLAY (B 1 2x3 B 2 2x3)
- [illegible] - MAINLY FINE TO MEDIUM SAND (B 2 2)
- [illegible] - NOT DEVELOPED - LARGE FAIR BASINS AND POND [illegible] AND OR PEAT (B 2 2 2x3 2x4)
- [illegible] - MAINLY BATH N SAND TO GRAVEL WITH SILT LAYER (B 2 2x3 2x4)
- [illegible] - DISCAT ABLATION TILL OVER DISCOAT (B 2 2x3 2x4)
- GENERALLY DISCOAT MUDDY TILL - GENERALLY LESS THAN 10 FT - SURFACE DRAINAGE FULL SOME SILTY LACUSTRINE DEPOSITS OVER BEDROCK (B 1 2x3 2x3 2x4)
- [illegible] - GENERALLY LESS THAN 10 FT - SURFACE DRAINAGE [illegible] TYPES TO DETERMINE STRATIGRAPHY (B 2x3 2x4)
- [illegible] - GULLIES IN LLG AND OR DISCOAT MUDDY SILT [illegible] ORGANICS LT AND SILTY (B 2x3 2x4)
- SPRINGED BOGS IN LOCALLY CALLED PEAT PLATEAUS - 3 TO 15 FT OF PEAT (B 2 2x3 2x4)
- UNPATTERNED PEAT AND IN DEPRESSIONS OFTEN EXTENSIVE - 3 TO 15 FT OF PEAT (B 2 2x3 2)
- [illegible] - SCALLOPED PATTERNED OR BEADED - COMMONLY 3 TO 5 FT AND EXCEPTIONALLY UP TO 15 FT OF PEAT (B 2 2x3 2)

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE. THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O.D. x 0.640 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHS

ROLL NO.	PHOTO NO.
A 21550	25, 26, 27, 79, 80, 8[illegible]
A 22438	166, 167, 168

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APP.
	1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1 to 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

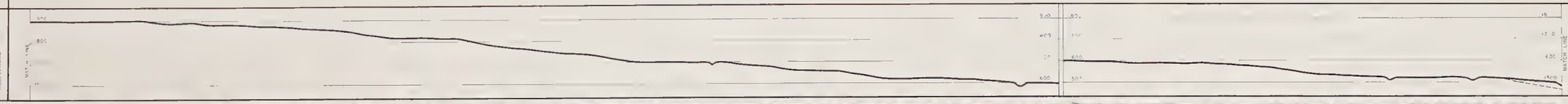
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0500-17
SHEET 17 OF 19

DRILL HOLE DATA

PROFILE

PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

LOCATION CHAINAGE

MP 799.0

DESIGN DATA

BORROW AREA
(PHOTO INTERPRETATION)
LEFT BANK 4.5 KM

MATCH LINE

FOOTAGE THIS SHEET

UTM GRID ZONE 10 & 11

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldr Boulders
C Clay	W Well graded

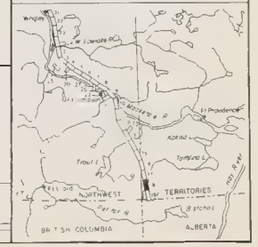
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i little 10 to 20%
k some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock	Gr Gravel	Ms Moss
[illegible]	Lrnd limned	org organic
[illegible]	[illegible]	[illegible]
fl fine	m medium	[illegible]

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOCATION STUDIES

MISCELLANEOUS MATERIA

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2 5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 42" O D x 0 540 W T GRADE 70
HEAVYWALL 42" O D x 0 720 W T GRADE 70
EXTRA HEAVYWALL - 42" O D x 0 865 W T GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 21550	79,80,8
A 21550	136,137,138
A 22439	178,179,-80

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
1	DEC 12/75	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 1.5 3 M et

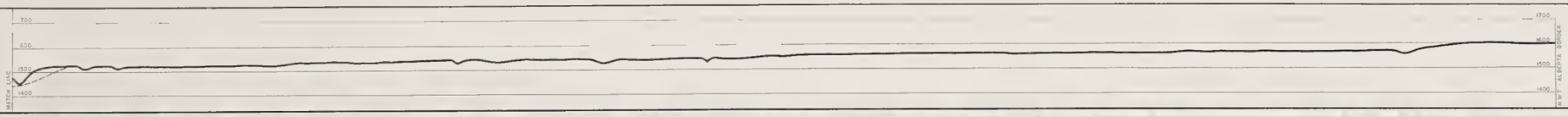
DATE	MARCH 3, 1975
SCALE	1 to 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO 0500-18
SHEET 18 OF 19
FILE No

DRILL HOLE DATA

PROFILE — PIPELINE ——— ACCESS ROAD - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	OFF ROW ACCESS	ACCESS ROAD TO BORROW AREA (PHOTO INTERPRETATION)	ACCESS ROAD TO BORROW AREA	BORROW AREA (PHOTO INTERPRETATION)	N.W.T. - ALBERTA BORDER
CONSTRUCTION CHAINAGE (KM)	MP 809.9	MP 810.1	MP 812.2	MP 812.3	MP 817.0 C-17	MP 823.5

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 11

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cbl(s) cobble(s) — bldr Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — s little 10 to 20%
a some 20 to 35% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

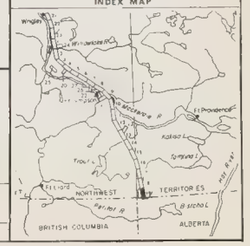
Bdk bedrock — Gr Grass — Mo Moss
c coarse — Lnd land — org organic
cvr cover — layd layered — veg vegetation
f fine — m medium — vsd varied

TERRAIN TYPES AND TERRAIN SYMBOLS - FV LEGEND

GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION
(INCLUDING LAKE PATERSON) ON
MACKENZIE RIVER TO NWT ALBERTA BORDER

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COB
BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPE
ESL ESKIMO LAKE BASIN THERMOKARST TYPE POORLY DRAINED SAND AND ICE FROM MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES
GLB2 GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED SAND AND ICE FROM MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER
OTB OUTWASH AND OR OUTWASH BELT PLAIN TABULAR BODIES OF GRAVEL AND OR SAND WITH SOME SILT
RSM RIDGE AND KNOLL MORAINE ROLLING AND OR HILLY GROUND MORAINE COMPOSED OF TILL
SC SHORELINE COARSE GRAVEL AND BOULDERS OFTEN THIN AND DISCONTINUOUS WITH MINOR SILT
SD SHORELINE SILT MATRIX
SG SHORELINE SAND AND GRAVEL
SS SHORELINE SAND
UR UNDULATED AND FLUTTED SURFACES COMMONLY LESS THAN 15 FT THICK OVER BEDROCK
EVB ERODING VALLEY BANKS LOCALLY CHANNELLED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAM EROSION VARIABLE MATERIALS
MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS
CSF OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY SANDY OVER SILTY CLAY
SD SAND DUNES MAINLY FINE TO MEDIUM SAND
TD THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT
WW WHITE WOOD WILLOW WATER WITH SAND TO GRAVEL BELOW 3 FT
AB 2 TO 5 FT OF LOOSE GRAVELLY SAND SILT ABANDON TILL OVER LOOSE MORAINAL TILL
EF GENERALLY SIGNIFICANTLY LESS THAN 10 FT ELEVATED OR FLAT MAINLY TILL SOME SILTY LACUSTRINE DEPOSITED OVER IRREGULAR BEDROCK
EH 3 TO 10 FT BUT GENERALLY LESS THAN 10 FT ELEVATED GALLEYNER NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS SUBTLE SHORELINE
EL SLOPE WASH EFFECTS BOTH EROSIONAL INCLUDING GULLIES, FLUTS AND DEPOSITIONAL COLLUVIUM CONSISTS OF LEVEL OR A DISCONTINUOUS SURFACE LAYER UP TO 15 FT CONSISTING OF ICE RICH ORGANIC SILT AND SILTY SAND WATER MARK WITH OR WITHOUT PEBBLES FINER ON CLIB AND COARSER ON CLIF
ES ESKIMO BOGS HIGH CALLED PEAT PLATEAUS 3 TO 15 FT OF PEAT
FT UNPATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT
SB STRING BOGS HIGH CALLED PATTERNED OR RIBBED FEN COMMONLY 3 TO 15 FT AND EXCEPTIONALLY UP TO 15 FT OF PEAT

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOCATION STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON A PHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER - 42" O.D. x 0.540 W.T. GRADE 70
HEAVYWALL 42" O.D. x 0.720 W.T. GRADE 70
EXTRA HEAVYWALL - 42" O.D. x 0.865 W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A22432	153, 154, 155
A22439	124, 125, 126
A22439	178, 179, 180

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE 1440 PSI
MAXIMUM OPERATING PRESSURE 1800 PSI 1250 PSI

NO.	DATE	REVISION	APP'D
1	APR 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

MAINLINE ROUTE

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" = 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO. 0500-19
SHEET 19 OF 19

ALIGNMENT SHEETS

PARSONS LAKE LATERAL
ACCESS ROAD TO MAINLINE ROUTE
MACKENZIE VALLEY COMMUNITY SERVICING
GREAT SLAVE LAKE COMMUNITY SERVICING
RIVER CROSSINGS

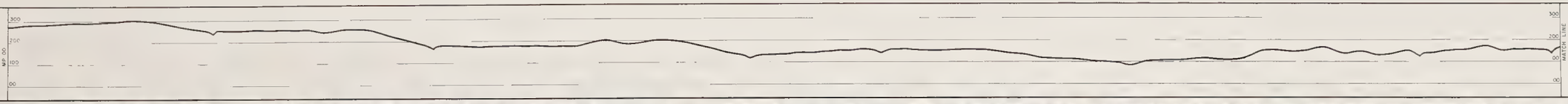
SUBSECTION H-2

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES
GREAT BEAR LAKE
MELVILLE HILLS
BEAR UPLAND
PHYSIOGRAPHIC DIVISION
-0700-
YELLOWKNIFE
RAE
GREAT SLAVE LAKE
PINE POINT
WOOD BUFFALO NATIONAL PARK
HAY RIVER
ENTERPRISE
HAY RIVER
GREAT SLAVE PLAIN
PHYSIOGRAPHIC DIVISION
-0600-
FORT PROVIDENCE
ALBERTA
TERRITORIES
MACKENZIE DELTA
PHYSIOGRAPHIC DIVISION
-0200-
ANDERSON PLAIN
PHYSIOGRAPHIC DIVISION
-0300-
EAST SIDE MACKENZIE PLAIN
(INCLUDING FRANKLIN MOUNTAIN DIVISION)
PHYSIOGRAPHIC DIVISION
-0400-
BEAUFORT SEA
TUKTOYAKTUK
TAGLU
PARSONS LAKE
INUVIK
FORT GOOD HOPE
NORMAN WELLS
FRANKLIN MOUNTAINS
FORT NORMAN
MACKENZIE RIVER
WRIGLEY
FORT SIMPSON
GREAT SLAVE PLAIN
(INCLUDING LIARD PLATEAU DIVISION)
PHYSIOGRAPHIC DIVISION
-0500-
NORTHWEST TERRITORIES
ALBERTA
BRITISH COLUMBIA
LIARD RIVER
MOUNTAINS
NAHANNI NATIONAL PARK
BRITISH COLUMBIA
FORT McPHERSON
PEEL RIVER
MACKENZIE
RICHARDSON MOUNTAINS
YUKON TERRITORY
CANADA
UNITED STATES OF AMERICA
ALASKA
WERNECKE MOUNTAINS
YUKON TERRITORY
MUNCHO LAKE PROV. PARK
STONE MOUNTAIN PROV. PARK
FOOTHILLS PIPE LINES LTD.
MASTER INDEX MAP
SUB - SECTION H-2

DRILL HOLE DATA

PROFILE — PIPELINE / ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
Cbl(s) cobble(s)	Bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i - little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock	Gr Grass	Mk Moss	
c coarse	L Lined / lensed	org Organic	
cr cover	lyrd layered	veg vegetation	
f fine	m medium	vd very dense	

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES — MAINLINE ROUTE DWG 0200-05

CONSTRUCTION STAKING (STATIONING) — MP 00 — MP 12.5 — MATCH LINE

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 8

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGES UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER 30" O.D. x 0.386" W.T. GRADE 70
HEAVYWALL 30" O.D. x 0.562" W.T. GRADE 70
EXTRA HEAVYWALL 30" O.D. x 0.625" W.T. GRADE 70

AERIAL PHOTOGRAPHS

ROLL NO.	PHOTO NO.
A 23475	35, 36, 37, 38 51, 52, 53

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE 1440 PSI
MAXIMUM OPERATING PRESSURE 1000 PSI
1250 PSI

NO.	DATE	REVISION	APPD
	2/76	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

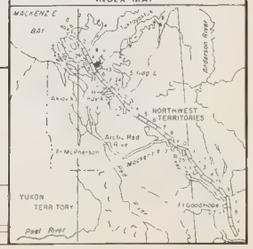
0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	20" =
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE: ALIGNMENT SHEET FOR PARSONS LAKE LATERAL

DRAWING/PLAN No. 0200-08
SHEET 1 OF 2
FILE No.

INDEX MAP



DRILL HOLE DATA

PROFILE

PIPE LINE
ACCESS ROAD

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	METER STATION / MATERIAL AREA # 309
CHAINAGE (km-m)	MP 12.8	MP 15.0

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 8

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O - Organic
L Low plasticity	H - High plasticity
S Sand	Pt - Peat
M - Silt	P - Poorly graded
cbl(s) cobble(s)	bldrs - Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	1 - little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

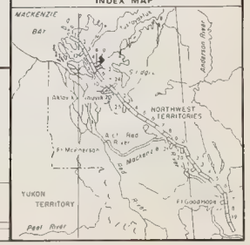
MISCELLANEOUS ABBREVIATIONS

Rock bedrock	G Gravel	Mx Mixed
c colluvial	L load layered	org - organic
cov cover	lyrd layered	veg vegetation
f fine	m medium	vrd varied

TERRAIN TYPIC AND TERRAIN SENSITIVITY LEGEND
MACKENZIE DELTA TO NORTH SCREEN AREA

AFD	ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COB [illegible]
AFP	[illegible] POOR PLAIN SAND AND GRAVEL ON EXPOSED BARS IN HIGH ENERGY [illegible]
AMP	ALLUVIAL MEANDER PLAIN ICE RICH STRATIFIED CLAY SILT AND FINE [illegible]
BR	BEDROCK TERRAIN [illegible]
CAF	COALESCING ALLUVIAL FANS ICE RICH POORLY [illegible] ORGANIC SILTY AND SANDY DEPOSITS CONTAIN [illegible]
DL	DELTA DEVELOPED SAND PLAIN ICE RICH SILT TOPSTRATUM OVER STRATIFIED SILTY SAND AND SILT WITH SOME CLAY AND PEBBLES (S 2 2n3 s2 2n3)
E	ESKERS SAND OR GRAVEL IN SMALL NARROW & SHAPED RIDGES MINOR SILT INCLUSIONS (S 1 2s1 3)
FFP	FOSSIL FLOOD PLAIN ICE RICH SILTY TOPSTRATUM OVER SAND AND OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OF CHANNELS OR THE MOCKPA [illegible] (S 3n3 3 s2n3 3 s3 3n3 3n4)
GLB1	GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY OVERLAIN BY SILTY CLAY SAND AND PEBBLES (S 2n3 3n4 s2n3 3n4)
GLB2	GLACIAL LAKE BASIN "THERMOKARST" TYPE (S RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND OR STAGNANT WAT [illegible]
HM	HUMMOCK MORAINE LARGE HILLOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVERLIES SHALLOW POND [illegible] (S 2 2 s2 3 3)
HT	HIGH TERRACES SILT COVERED STRATIFIED FLUVIAL AND OR GLACIOFLUVIAL SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED [illegible]
K	KAMES COMPLEXLY STRATIFIED SAND AND OR GRAVEL MINOR FILL AND [illegible]
LT	LOW TERRACES POORLY EXPRESSED TERRACES COMPOSED OF DATA MODERATE SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS FILL AND ICE LENSES [illegible]
M	[illegible] PEAT COVERED COMPOSED OF ORGANIC SAND AND OR CLAY SILT AND [illegible]
MRD	MACKENZIE RIVER DELTA COMPLEXLY INTERBEDDED ICE RICH SILT CLAY [illegible] SAND AND PEAT PARTLY REGULAR NEEDLE AND PARTLY IRREGULAR FLOOD PLAIN MORPHOLOGY MANY LAKES AND CHANNELS (S 1 3s1 3 s2 1 4)
M	[illegible] AND ROLL MORAINE LARGELY ROLLING OR HUMMOCKY [illegible] HOLES OR MOUNDS OF LOAM LOW TO MEDIUM PLASTICITY [illegible] SHALLOW PEAT AND POND DEPOSITS WITH [illegible]
MT	MUDFLOWS & BLOCKFIELDS [illegible]
RD	BEADED DRAINAGE PATTERN ICE RICH SILTY SOILS (S 2n3 3n4 s3 3 4)
GR	GROWING DEPOSITS INCLUDING FLUTIVE AND GLACIOFLUVIAL GROUNDS WITH LOW EAR RIDGES (S 2n3 3 s3n3 3)
EVB	ERODING VALLEY SLOPES AND ESCARPMENT SLOPES MIXED CLAY TO BOULDERS AND OR BEDROCK (S s3 3n4)
IWP	ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT (S 2n3 4 s3n3 3)
L	KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS MORAINE AND THERMOKARST DEPRESSIONS (S 2 3 s1 3 3)
MC	MELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER SILT (S 3 4 s3 4)
OD	OLD DEADICE FEATURES GENERALLY DEEPER AND LARGER FAUNTS THAN WT [illegible]
P	PINGOS (S s3 4)
T	TERTIARY SAND AND GRAVEL IN EXPOSURES NEAR THE SURFACE (COMMONLY WITHIN 3 FT) (S 1 2 s1 2 3 3)
BS	BOGS SPECKLED WITH WHITISH MEADOWS UP TO 15 FT OF PEAT IN PEAT PLATEAU BUT GENERALLY 5 TO 10 FT DEEP (S 3 4 s3 4)
SB	STRING BOG OR PATTERNED FEN GENERALLY 3 TO 10 FT OF PEAT GENERALLY LESS THAN 5 FT (S 3 4 s3 4)
PT	WIDE BOG AND FEN PEATS OR UNPATTERNED PEAT MOST CLASSIFIED DEPRESSIONAL PEAT IS COMMONLY 3 TO 5 FT DEEP BUT OCCASIONALLY DEEPER (S 3 4 s3 4)
SL	SLOPE WASH DEPOSITS AND ASSOCIATED SHEET WASH DRAINAGE TOPSTRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS WITH SOME GRAVEL LENSES AND THIN ORGANIC LAYERS GENERALLY LESS THAN 5 FT THICK BUT MAY REACH 15 FT LOCALLY (S s2n3 3n4)
WW	WAVE MODIFIED TILL MAINLY A THIN SANDY TO GRAVELLY WASHED LAYER OVER LACUSTRINE DEPOSITS (S 2 2n3 3 3n4)

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	30" O.D. x 0.386" W.T. GRADE 70
HEAVYWALL	30" O.D. x 0.562" W.T. GRADE 70
EXTRA HEAVYWALL	30" O.D. x 0.625" W.T. GRADE 70

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 23476	103, 104, 105
A 23473	7, 8, 9, 10

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

No	DATE	REVISION	APP'D
1	1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 10 Miles

DATE	MARCH 3, 1975
SCALE	1" = 2000'
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	[illegible]
SUPV ENGINEER	[illegible]

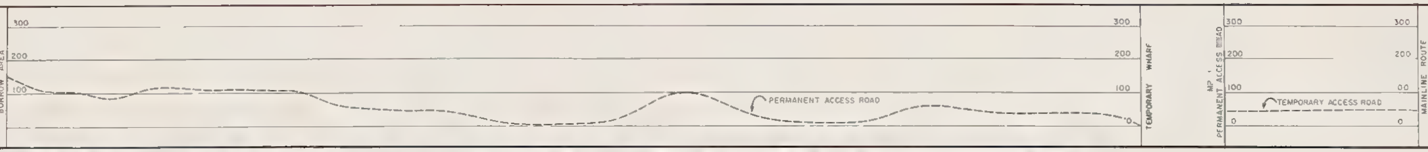
TITLE
ALIGNMENT SHEET
FOR
PARSONS LAKE LATERAL

DRAWING/PLAN NO 0200-09
SHEET 2 OF 2

DRILL HOLE DATA

PROFILE

PIPELINE
ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

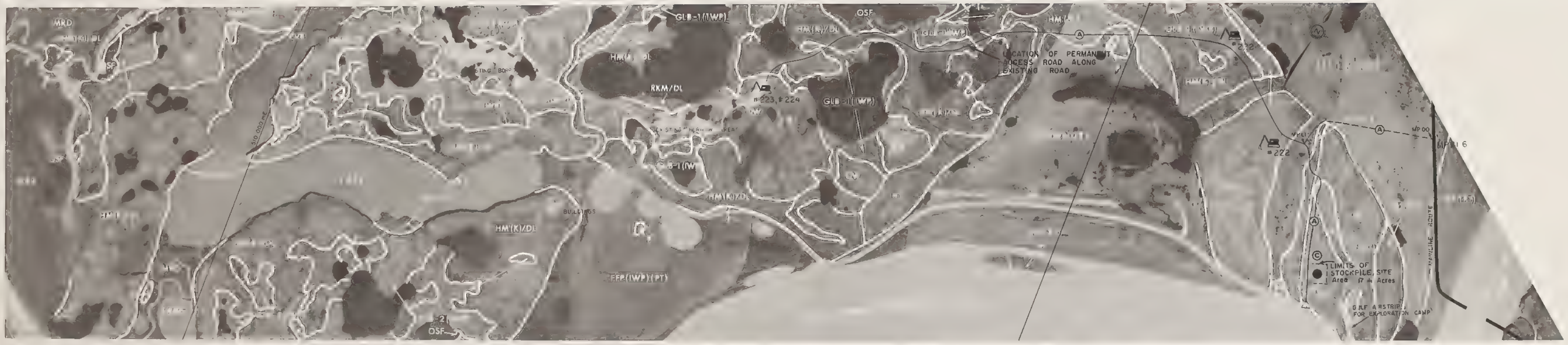
G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Ms Moss
c coarse	Lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vrd varved



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

BORROW AREA 223 & 224

BORROW AREA 222

STOCKPILE & WHARF SITE

PERMANENT ACCESS ROAD

MAINLINE ROUTE
DWG - 0200-03

FOOTAGE THIS SHEET

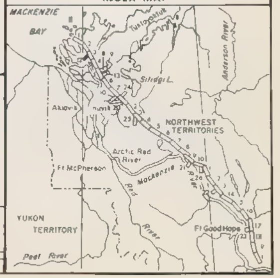
CONSTRUCTION CHAINAGE (miles)

MP 1.1

MP 00

DESIGN DATA

INDEX MAP



UTM GRID ZONE 8

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	
METER STATION		TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF		EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.6 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 3476	27 30

NO	DATE	REVISION	APP'D
	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 1.0 Miles

DATE	MARCH 1, 1975
SCALE	1 TO 2400
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE
ACCESS ROAD TO WHARF SITE & BORROW AREAS 222, 223 & 224

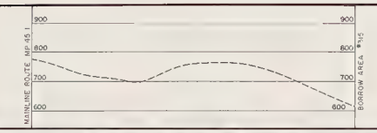
DRAWING/PLAN No 0200 - 12
SHEET 1 OF 1
FILE No.

DRILL HOLE DATA

PROFILE

PIPE LINE ——

ACCESS ROAD - - - -



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

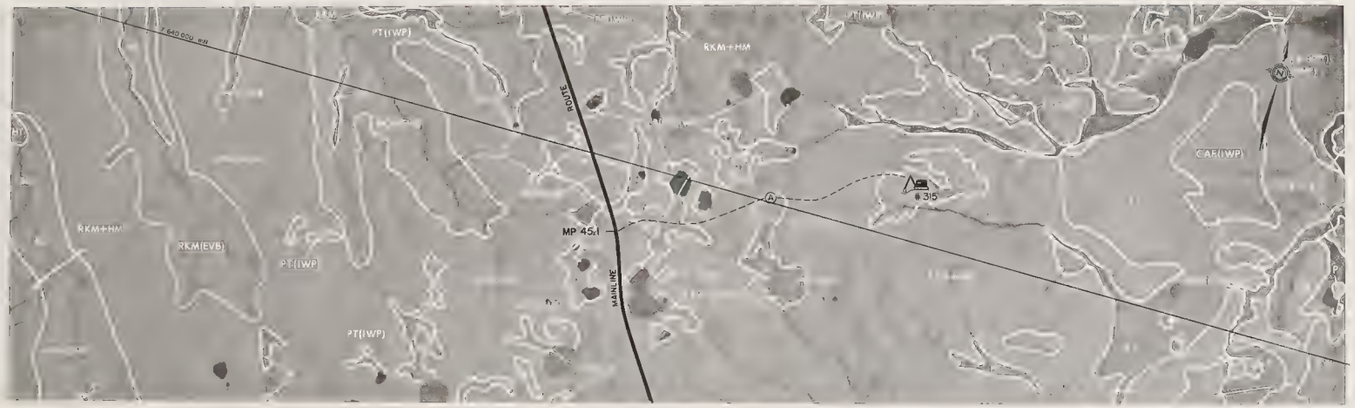
G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cb(s) cobble(s)	bldr Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	L - little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock	Mk - Moss
c coarse	Load - loaded
crs - coarse	org organic
f fine	lyrd layered
	veg vegetation
m medium	vrd varved



TERRAIN MAPPING AND TERRAIN SENSITIVITY LEGEND
FOR
MACKENZIE VALLEY - BEAUFORT SEA
MACKENZIE DELTA TO NORTH SLOPE AREA

AP - ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL BOWLDERS AND BOULDERS (S 1 3-5 3-6 R)

AFP ACTIVE FLOOD PLAIN SAND AND GRAVEL ON EXPOSED BARS IN HIGH ENERGY STEEP GRADIENT STREAMS AND SAND OR SILT IN BARS ON LOW ENERGY LOW GRADIENT STREAMS

AM ALLUVIAL MEANDER PLAIN ICE RICH SILT RAFTED CLAY SILT AND FINE SAND OVER THIN DISCONTINUOUS LAYER OF SAND AND OR GRAVEL OVER TILL OR GLACIOLACUSTRINE SILT AND CLAY (S 1 3-5 3-6 R)

BR BEDROCK TERRAIN BEDROCK OUTCROPS OF VARYING SIZES WITH THIN ICE ERRATIC LESS THAN 5 FT TILL AND SILTY COLLUVIUM ON BEDROCK (S 1 3-5 3-6 R)

CAF COALESCING ALLUVIAL FAN ICE RICH POORLY SORTED ORGANIC AND ORGANIC SILTY AND SANDY DEPOSITS CONTAINING SOME CLAY AND ROUNDED SMALL PEBBLES (S 2 3-5 4F 2-3 B 2 3-6)

F DELTAIC FINE SAND PLAIN ICE RICH SILT TO STRATUM OVER STRATA OF SILTY SAND AND SILT WITH SOME CLAY AND PEBBLES (S 2 3-5 4F 2-3)

E ESKER SAND OR GRAVEL IN SMALL NARROW & SHARP RIDGES MINOR SILT (S 1 3-5 3-6 R)

FFP FOSSIL FLOOD PLAIN ICE RICH SILTY TO STRATUM OVER SAND AND OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OF CHANNELS OF THE MACKENZIE RIVER (S 1 3-5 3-6 3-7 B 2 3-7 3-6)

L B GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH WEBBED TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY OCCASIONALLY WITH A BRACE OF SAND AND PEBBLES (S 2 3-5 3-6 4-5 3-7 3-6)

S B 2 SAND DUNE BASIN THE ENCLOSED TYPE ICE RICH WEBBED TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND OR STRATIGRAPHY WITH IN CLOSED THERMOKARST DEPRESSIONS (S 2 4-5 4F)

MR MURPHY'S MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED BOULDERY OF TILL WITH SOME SAND AND OR SILT PEAT OF ALLES SHALLOW POCKETS SILTY CLAY SEGMENTS IN CLOSED KETTLE HOLE DEPRESSIONS (S 2 3-5 3-6 2 3-6)

H HIGH TERRACES SILT LEVEL TO STRATIFIED FLUVIAL AND OR OUTWASH SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS (S 2 3-5 3F 3-6 B 2-3)

R RAMES COMPLEXLY STRATIFIED SAND AND OR GRAVEL MINOR TILL AND BOULDERS (S 1 3-5 R)

RT RAMI TERRACES POORLY EXPRESSED TERRACES COMPOSED OF DIRTY POORLY SORTED GRAVEL WITH COBBLES OR BOULDERS VARIABLE AMOUNTS OF SAND TILL AND ICE LENSES (S 1 3-5 B 2-3)

LB LARGER NT BASINS POTGLACIAL POND DEPOSITS OF LOW ENERGY IN LARGER FLAT BOTTOMED KETTLE HOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND MINERAL CLAY SILT AND FINE SAND RESS COMMONLY 2 TO 7 FT THICK OVER TILL (S 2 3-5 3-6 2 R)

MD MACKENZIE RIVER DELTA COMPLEXLY INTERBEDDED OF RICH SILT CLAY FINE SAND AND PEAT PARTICULARLY DELTAIC AND PARTICULARLY FLOOD PLAIN AND OR SLOW MOVING LAKES AND CHANNELS (S 1 3-5 3-6 1 R)

OA OUTWASH PLAIN AND OUTWASH DELTAS FAIRLY WELL DRAINED SAND AND OR GRAVEL (S 1 2-3 3-6 2 R)

MRG MORE AND KNOLL MORAINE LARGELY ROLLING GROUND MORAINE WITH AND WITHOUT DRAINAGE MOUNDS LOW TO MEDIUM RELIEF CONTAINS SHALLOW PEAT AND POCKETS OF ICE WITH VARIOUS DEPTHS (S 2-3 3-5 3-6 2-3 4)

ESCP ESCARPMENT SLOPE DEPENDS UPON TERRAIN TYPE

M MUSKEGS & ELEVATED DRAINAGE BLOCKS ICE RICH SILT AND CLAY (S 1 2-3 3F 2-3 B 2 4)

ED DRAINED DRAINAGE PATTERN ICE RICH SILTY SOILS (S 2-3 3-4 4 B 4)

EN ENVIRONMENTAL DEPOSITS NEVER NO FLOODING AND GLACIAL DRAINAGE PATTERN EARTH DIKES (S 2-3 3-5 3-6)

E-B BROKEN VALLEY SIDES AND ESCARPMENT SLOPES MIXED CLAY TO BOULDERS AND OR BEDROCK (S 1-2 3-6)

WP ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT (S 2-3 4 3-6 R)

K KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS MORAINE AND THERMOKARST TERRAIN (S 1 3-5 3-6 2 3-6)

WL WETWATER CHANNEL USUALLY WET AND WITH PEAT OVER SILT (S 2 3-5 4F 4-5)

O-S OLD SIDE FEATURES GENERALLY DEEPER AND LARGER THAN LATERAL MORAINE (S 1 3-5 3-6)

T TERTIARY SAND AND GRAVEL IN EXPOSURES NEAR THE SURFACE COMMONLY WITH SILT (S 1 2-3 2 B 2)

BS BOG SPECKLED WITH WATER MEADOWS UP TO 15 FT OF PEAT IN PEAT PLAIN AND SILT GENERALLY 8 TO 10 FT DEEP (S 2 4 4 R)

P TTP NO BOG OR PATTERNED FEN GENERALLY 3 TO 12 FT OF PEAT GENERALLY LESS THAN 5 FT (S 3 4 4 R)

PT WASTED BOG AND FEN PEATS OR UNPATTERNED PEAT IN POTGLACIAL POND DEPOSITS PEAT COMMONLY 2 TO 7 FT DEEP ALL LOCATIONS LIKELY TO REACH 10 FT LOCALLY (S 2 3-5 4F 4-5)

SW SLOPE WASH COLLUVIUM AND ASSOCIATED SHEET WASH ERRATIC TOPSTRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS WITH SOME GRAVEL LESS AND THIN ORGANIC LAYERS GENERALLY LESS THAN 5 FT THICK BUT MAY REACH 10 FT LOCALLY (S 2 3-5 3-6)

MW WAVE MODIFIED TILL MAINLY A THIN SANDY TO GRAVELLY WASHED LAYER OVER LIQUEFYING DEPOSITS (S 2 3-5 3F 3-6)

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES		MAINLINE ROUTE (MP 45.1 - 0.0 MP 0.0)	BORROW AREA #45
CONTINUATION CHAINAGE (MAIN)	MP 45.1	MP 2.0	
DESIGN DATA			

FOOTAGE THIS SHEET

UTM GRID ZONE 8

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	C
COMPRESSOR STATION	C	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING	CI	PERMANENT ACCESS ROAD	
METER STATION	M	TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF	W	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3 MINIMUM DEPTH OF COVER = 2.5 FEET
4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 23475	34, 35, 36

NO	DATE	REVISION	APP'D
	APR 9 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE
ACCESS ROAD TO
BORROW AREA #315

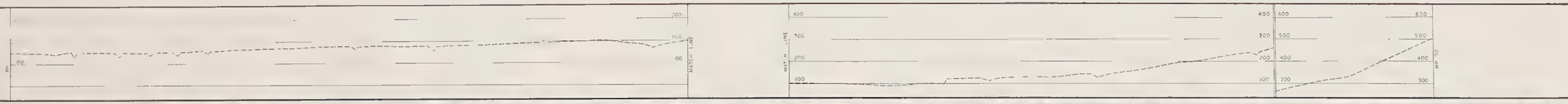
DRAWING/PLAN NO 0200-13
SHEET 1 OF 1
FILE No

DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	DEMPSTER HIGHWAY		
CONSTRUCTION CHAINAGE (m/ks)	MP 11.5	MATCH LINE MP 5.7	MATCH LINE MP 5.7
DESIGN DATA			

ACCESS ROAD SITE DWG. W0300-01

FOOTAGE THIS SHEET

UTM GRID ZONE 8

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O - Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M - Silt — P Poorly graded
cbl(s) - cobble(s) — bldrs Boulders
C - Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — i little 10 to 20%
s some 20 to 35% — t trace 1 to 10%

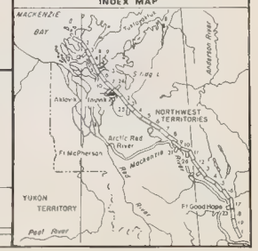
MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — G Grass — Mz Moss
c - coarse — Lmd - limited — org organic
cvr cover — hyrd layered — veg vegetation
f fine — m medium — vrv varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND FOR ANDERSON PLAIN PIPELINE CORRIDOR NORTH SCREEK AREA TO GIBSON PASS

AT ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL, SOME COBBLES AND BOULDERS (5 2 3 u2 2&2 4)
APP ACTIVE FLOOD PLAIN SAND AND GRAVEL ON EXPOSED BARS IN MOBILE BRAIDED CHANNELS (PT) (SAND AND SILT IN PONDS) (5 2 3 u2 2&2 4)
EPG STEEP GULLY DEPOSIT (5 2 3 u2 2&2 4)
EGL LOW GRADE GULLY DEPOSIT (5 2 3 u2 2&2 4)
ARW ALLUVIAL WINDSWEPT PLAIN (SE RICH STRATIFIED CLAY SILT AND FINE SAND OVER THIN DISCONTINUOUS LAYER OF SAND AND OR GRAVEL OVER TILL OR GLACIO LACUSTRINE SILT AND CLAY (5 2 3 u2 2&2 4)
RT BEDROCK TERRAIN BEDROCK OUTCROPS OF VARYING SIZE WITH THIN (GENERALLY LESS THAN 5 FT) TILL AND SILTY COLLUVIUM GRD (5 2 3 u2 2&2 4) DEPENDING ON DEPTH OF SURFICIAL BEDROCK (CLEARWATER NORTH OF NORTH SCREEK) OCCASIONAL BEDROCK OUTCROPS BETWEEN THE PEEL RIVER AND THE NORTH BORDER
TT KAMESTONE ALLUVIAL FAN (SE POORLY SORTED SILTY SAND AND GRAVEL WITH SOME COBBLES AND BOULDERS) (5 2 3 u2 2&2 4) OCCASIONAL CLAY AND OR CASSIAN PEBBLES FREQUENTLY WET (5 2 3 u2 2&2 4)
DLF DELTAIC FINE SAND PLAIN (SE RICH SILT TOPSTRATUM OVER STRATIFIED SILTY SAND AND SILTY WITH SOME CLAY AND PEBBLES (5 2&3 u2&3 2&4)
DLG DELTAIC COARSE SAND PLAIN STRATIFIED CLEAN TO SILTY SAND AND OR GRAVEL (5 2 3 u2 3 3)
E ESKER SAND AND OR GRAVEL IN SMALL NARROW A SHAPED RIDGES MIX OR SILT INCLUSIONS (5 1 3 u1 3)
FFP FOSSIL FLOOD PLAIN (SE RICH SILTY TOPSTRATUM OVER SAND AND OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OF NEAR VELY HIGH ENERGY STREAM (5 1 2&3 u2 2&3)
F-O [illegible]
F-W [illegible]
F-M MOSTLY OF FILL WITH SOME SAND AND OR SILT PEAT OVER, ESS SHALLOW [illegible] DEPRESSIONS
MT MODE TERRACES (SILT DELIVERED BY ARTIFICIAL FLUVIAL AND OR DRAINAGE SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS (5 1 2 u2 2&2 4)
K KAMES COMPLEXLY STRATIFIED SAND AND OR GRAVEL MINOR TILL AND BOULDERS (5 1 3 u1 3)
KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF CLAYEY POORLY SORTED SAND AND OR GRAVEL & THE COBBLES VARIABLE DEPENDING ON THE TYPE OF SEDIMENT (5 1 2 u1 3)
LB LAKOUTH NEBASHE POTGLACIAL POINTED LAKOUTH NEBASHE POINTS WITH LARGER FLAT BOTTOMED KETTLE HOLES AND THE PROGRADED DEPRESSIONS, PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND SAND (5 2&3 u2 2&3)
LR LAKE SAND BEDS COMMONLY 2 TO 7 FEET THICK OVER TILL (5 2&3 u2 2&3)
OP OUTWASH PLAIN AND OUTWASH DELTAS FAIRBANK BOULDERY SAND AND OR GRAVEL (5 1 3 u1 3&3 2)
LM LATERAL MORAINE ANDES MORAINE LARGELY ROLLING GROUND MORAINE WITH AND WITHOUT DRAINAGE DITCHES LOW TO MEDIUM ARTIFICIAL FILL WITH SHALLOW PEAT AND PONDS SEDIMENTS IN DEPRESSIONS (5 1 2 u2 3&3 u1 3)
SD SAND DUNES ELONGATE FINE TO MEDIUM SAND RIDGES (5 2 3)
REV EQUIPMENT (DEPENDS UPON TERRAIN TYPE)
AS ABANDONED STRANDLINES
AF RIVER FLOODPLAIN BOULDER VEES ON THE ACTIVE FLOODPLAIN (5 2 3)
BD BEADED DRAINAGE PATTERN IN (SE RICH SILTY SOIL (5 2&3 3&4 u2 & 4) DRAINING DEPRESSIONS INCLUDING ACTIVE AND RELATIVELY STABLE LAKES WITH
D ERODED VALLEY SIDES AND ESCARPMENT SLOPES (SE RICH CLAY TO SILTY SAND AND OR BEDROCK (5 2 3u2 3&4)
WE WEDGE POLYGONS USUALLY (SE RICH SILT (5 2 3 u2 4)
K KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS AND THE PROGRADED DEPRESSIONS
W WELLWATER CHANNEL USUALLY WET AND WITH PEAT OVER SILT
MD MUDFLOWS AND ELONGATE DETACHMENT SLIDES (SE RICH SILT AND CLAY OLD SLIDE FEATURES GENERALLY DEEPER AND LARGER FALLOUT TALUS
MT MANTLE THICKER (SE RICH SILT (5 2&3 2)
TH THIN (5 FT) AND PATCHY DRIFT OVER ANY LEVEL BEDROCK SURFACE
R ROLL SPLIT LED WITH WETTER MEADOWS UP TO 10 FEET OF PEAT IN FLAT PLATEAUS BUT GENERALLY 3 TO 10 FEET DEEP (5 2 4 u2 4)
SR SPOT ROLL OR PATTERNED TEN (GENERALLY 2 TO 12 FT OF PEAT GENERALLY LESS THAN 5 FT (5 2 4 u2 4)
MR MIXED ROLL AND TEN PEATS OR UNPATTERNED PEAT IN POTGLACIAL MOLES DEPRESSIONS PEAT IS COMMONLY 2 TO 7 FEET DEEP BUT LOCALLY UP TO 10 FEET DEEP (5 2 4 u2 4)
T TOPSTRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERED WITH SOME GRAVEL SIZE AND THICKER CLAYEY GRAVEL GENERALLY LESS THAN 5 FT THICK BUT MAY REACH 15 FT LOCALLY (5 1&3 3&4)
SM SMALL MODIFIED TILL MAINLY A THIN SAND TO GRAVELLY MADE CLAYEY OVER TILL (5 1&2 2 u2 2&3)

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
COMPRESSOR STATION WITH CHILLING
METER STATION
MATERIAL STOCKPILE SITE
PROPOSED PERMANENT WHARF
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
PROPOSED HIGHWAY
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 21511	212, 213, 214, 215, 216

No	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR ACCESS ROAD TO COMPRESSOR STATION C 02

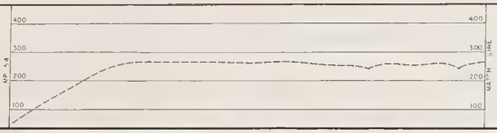
DRAWING/PLAN No. 0300 - 20

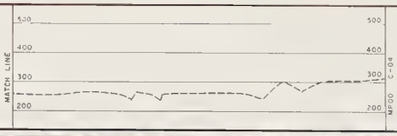
SHEET 1 OF 1

FILE No.

DRILL HOLE DATA

PROFILE — PIPELINE ——— ACCESS ROAD - - - -





CONSTRUCTION DESIGN

	REFERENCE DRAWING & NOTES	CONSTRUCTION CHAINAGE (or km)	DESIGN DATA
	WHARF SITE	MP 5.4	
	MATCH LINE	MP 2.3	
	MATCH LINE	MP 2.3	
	ACCESS ROAD C-04 (MP 00 - MP 2.3)	MP 00	

FOOTAGE THIS SHEET

UTM GRID ZONE 9

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl c cobbles	Bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Mx Moss
c coarse	L leaf	org organic
cvr cover	bed layered	vegetation
f fine	m medium	vrd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
ANDERSON PLAIN PHYSIOGRAPHIC DIVISION
NORMAN CREEK AREA TO GIBSON PASS

AFC ALLUVIAL FAN DEPOSIT POORLY SORTED SILTY SAND GRAVEL SOME COB
B
AFS EASY STEEP GRADIENT STREAMS AND SAND OR SILT IN BASIN OR FAN
ASP
BR GENERALLY LESS THAN 8 FT FINE AND SILTY COLLUVIUM OVER BEDROCK ON STEEPLY SLOPING BEDROCK ESCARPMENTS NORTH OF MACMANUS AND OCCASIONAL BEDROCK RIDGES BETWEEN THE PEEL RIVER AND THE YUKON WHITE BORDER (5 1 2n3 L1 2n3 B 1 3n4
PSP
CL INORGANIC SILTY AND SANDY DEPOSITS CONTAINING SOME CLAY AND OC
C DELTAIC COARSE SAND PLAIN STRATIFIED CLEAN TO SILTY SAND AND/OR GRAVELLY SAND
E ESKERS SAND AND/OR GRAVEL IN SMALL NARROW A SHAPED RIDGES (5
F FOSSIL FLOOD PLAIN ICE RICH SILTY TEMPERATE OVER SAND AND OR GRAVEL BELOW THE INACTIVE FLOOD PLAIN OF RELATIVELY HIGH ENERGY
FP
G.P GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH MEDIUM TO HIGH LY PLASTIC GLACIOLACUSTRINE SILTY CLAY OCCASIONALLY WITH A TRACE OF SAND AND PEBBLES
GLB THERMOKARST TYPE ICE RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND/OR STAGNANT WATER IN CLOSED THERMOKARST DEPRESSIONS (5 3 4 L2 4)
HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SMALL RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVERLIES SHALLOW POND SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS (5 2n3 L1 2n3 B 1 3 4)
HT HIGH TERRACES SILT ICE LENS STRATIFIED FLUVIAL DEPOSITS SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS (5 1 2 L2 2n3)
K KAMES COMPLEXLY STRATIFIED SAND AND OR GRAVEL UNDER TILL AND BOULDERS (5 1 3 L1 3)
KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF DIRTY ICE LY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS TILL AND ICE LENSES (5 1 2 L1 3)
L LACUSTRINE BASINS POSTGLACIAL PONDED (LACUSTRINE) DEPOSITS IN LARGE FLAT BASINS ICE RICH MEDIUM TO HIGHLY PLASTIC LACUSTRINE SILTY CLAY EQUIVALENT TO CHALKY SAND OR PEAT CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 3 FT THICK OVER TILL (5 2n3 L2n3 2n4)
LM OUTWASH PLAIN HEADS AND OUTWASH DELTAS TABULAR BODIES OF SAND AND OR GRAVEL (5 1 2 L1 3 B 2 3)
MR ICE AND ENDS MORAINE LARGELY ROLLING GROUND MORAINE WITH AND WITHOUT SURVIVING KOTAME LOW TO MEDIUM PLASTICITY SILT WITH SHALLOW PEAT AND MINOR SEDIMENTS IN DEPRESSIONS (5 2n3 L1 2n3 B 2n3 4
SD SAND DUNES ELONGATE FINE TO MEDIUM SAND RIDGES (5 L2 3)
ESCP ESCARPMENT (5 DEPENDS UPON TERRAIN TYPE
AS ABANDONED STRAND LINES (5 L2n3)
ASF AUFEIS FLOOD ICING OCCURRENCES ON THE ACTIVE FLOODPLAIN (5 1 3)
B BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOIL (5 2n3 3n4 L2 B 1 3)
GL GLACIAL LOBES FORMS INCLUDING FLUTING AND GLACIAL GROOVES IN LINEAR RIDGES (5 1n2 3 L2n3 3)
R ERODING VALLEY SIDES AND ESCARPMENT SLOPES MIXED CLAY TO BOULDERS AND OR BEDROCK (5 L2 3n4)
RP ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT (5 2 4 L2 4)
K KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS AND THE TEMPORARY DEPRESSIONS (5 2 3 L2 3)
M MELTWATER CHANNEL USUALLY WET AND MOSTLY PEAT OVER SILT (5 3 4 L2 4)
M MUDFLOWS AND ELONGATE DETACHMENT SLIDES IN ICE RICH SILT AND CLAY (5 2 3 L2 3)
S OLD SLIDE FEATURES GENERALLY DEEPER AND LARGER THAN MP MASS WASTING ICE RICH SILT (5 2n3 3 L2 3)
TS THIN (2 3 FT) AND PATCHY DRIFT OVER AN UNEVEN BEDROCK SURFACE (5 1 2 L1 2 B 1 3)
BG BOGS SPECKLED WITH WHITE WEEDING UP TO 10 FT OF PEAT ON A PLATEAUX BUT GENERALLY 5 TO 10 FT DEEP (5 3 4 L2 4)
SP STRING BOG OR PATTERNED FEN GENERALLY 3 TO 12 FT OF PEAT CEN (5 2 3 L2 4)
PT WET BOG AND FEN PEATS OR UNPATTERNED PEAT IN POST GLACIAL POND DEPRESSIONS PEAT IS COMMONLY 2 TO 3 FT DEEP BUT OCCASIONALLY 5 TO 6 FT DEEP (5 2 3 L2 4)
SW SLOPE WASH DEPOSITS AND ASSOCIATED SHEET WASH DRAPE MASS TOP STRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS WITH SOME GRAVEL SIZES AND IN ORGANIC LAYERS GENERALLY LESS THAN 5 FT THICK BUT MAY REACH 10 FT LOCALLY (5 4n3 3n4)
WM WAVE MODIFIED TILL MAINLY A THIN SANDY TO GRAVELLY MANTLE OVER TILL (5 1n2 2 L2 3n3)

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21085	199, 200, 201, 257 258, 259

NO	DATE	REVISION	APP'D
1	APR 7 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

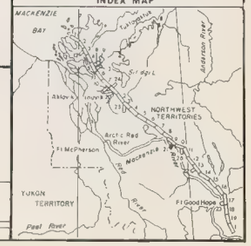
0 0.5 1.0 Miles

DATE:	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE
ALIGNMENT SHEET FOR ACCESS ROAD TO COMPRESSOR STATION C-04

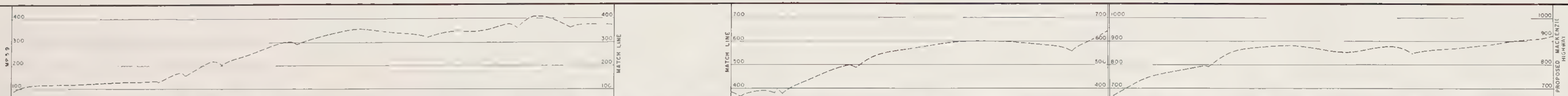
DRAWING/PLAN No. 0300-21
SHEET 1 OF 1
FILE No.

INDEX MAP



DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O - Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P - Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

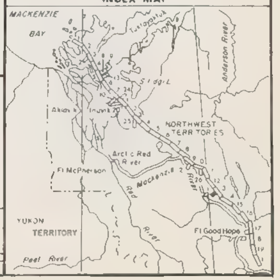
Bdrk bedrock	G Grass	Ms Moss
c course	Lnsd - lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vrd varved

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	TEMPORARY WHARF	MATCH LINE	MATCH LINE	ACCESS ROAD MEETS PROPOSED MACKENZIE HIGHWAY SEE DRAWING 0300-13	FOOTAGE THIS SHEET
CONSTRUCTION CHAINAGE (miles)	MP 5.9	MP 0	MP 0	MP 0.0	
DESIGN DATA					

UTM GRID ZONE 9

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21537	6, 7, 8
A22421	205, 206, 207

Nº	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 1.0 Miles

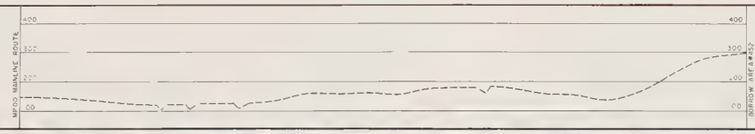
DATE	MARCH 3, 1975	TITLE	ACCESS ROAD TO WHARF AND STOCKPILE SITES FOR COMPRESSOR STATION C05
SCALE	1" TO 2000'		
DRAWN BY			
CHECKED BY			
APPROVED BY		DRAWING/PLAN No. SHEET 1 OF 1	0300 – 22
SUPV ENGINEER		FILE No.	

DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD - - - -



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

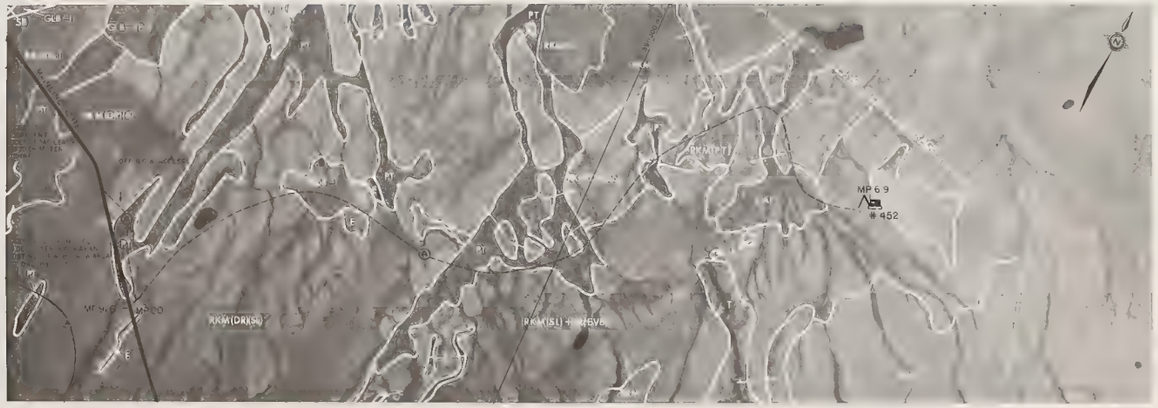
G - Gravel
L - Low plasticity
S - Sand
M - Silt
cbl(s) - cobble(s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
Bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
b - some 20 to 35%
l - little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Brk - bedrock
c - coarse
crr - cover
f - fine
G - Grass
Lmd - laminated
lyrd - layered
m - medium
Ms - Moss
brg - organic
org - organic
vrd - varved



TERRAIN TYPING AND TERRAIN DESIGN LEGEND
FOR
ANDERSON PLAIN PHYSIOGRAPHIC DIVISION
NORTH CREEK AREA TO GIBSON PASS

[illegible]

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE (M-FM)

DESIGN DATA

MAINLINE ROUTE
SEE DWG 0300 01

MP 00

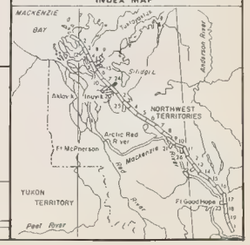
BORROW AREA #452

MP 6.9

FOOTAGE THIS SHEET

UTM GRID ZONE 8

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21511	195, 196

Nº	DATE	REVISION	MP 0
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

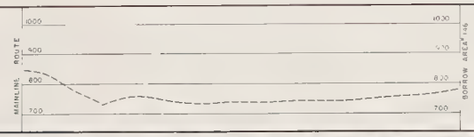
TITLE
ALIGNMENT SHEET FOR ACCESS ROAD TO BORROW AREA #452

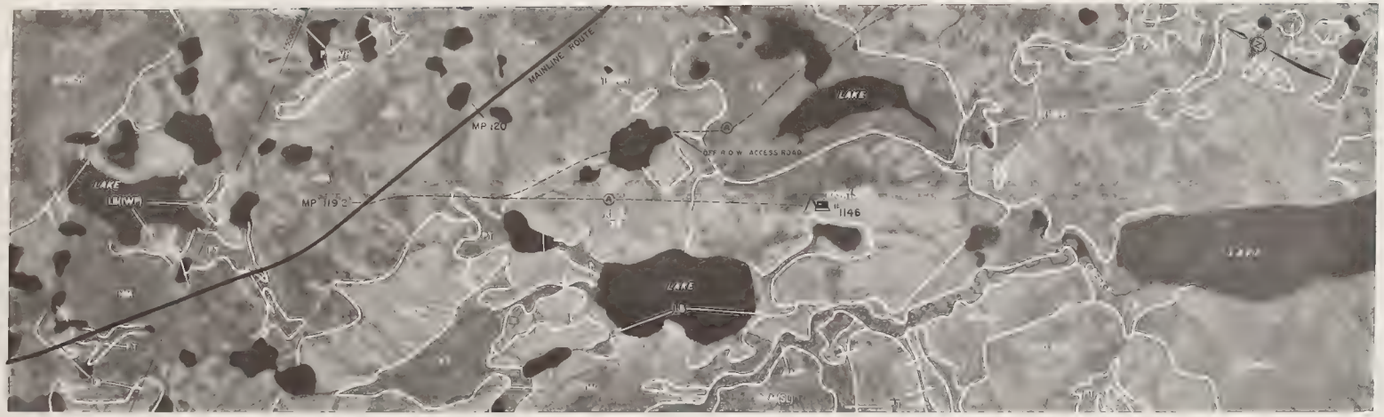
DRAWING/PLAN No. 0300-24
SHEET 1 OF 1

FILE No.

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MAINLINE ROUTE SEE DWG 0300-03	OFF R.O.W. ACCESS	BORROW AREA #1146	FOOTAGE THIS SHEET
LOCATION CHAINAGE — km	MP 0.0	MP 0.9	MP 2.8	
DESIGN DATA				

UTM GRID ZONE 8

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21583	90,91,92

NO	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE: ALIGNMENT SHEET FOR ACCESS ROAD TO BORROW AREA #1146

DRAWING/PLAN No. 0300-25 SHEET 1 OF 1

FILE No.

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
Cbl(s) cobble(s)	Bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS

MINOR SOIL COMPONENT PERCENTAGES

s - sand 25 to 50%	L, l little 10 to 20%
k some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

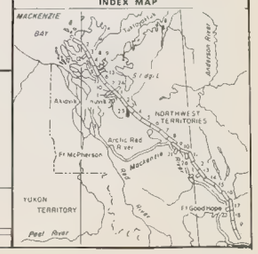
Bdrk - bedrock	G Grass	Mo Moss
c - coarse	L,lvd - layered	org organic
cvr cover	fyrd fyrded	veg vegetation
f fine	m medium	vvd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

ANDERSON PLAIN PHYSIOGRAPHIC DIVISION
NORM'S CREEK AREA TO G 630 K PASS

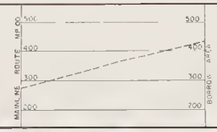
[illegible]

INDEX MAP



DRILL HOLE DATA

PROFILE
PIPELINE ——
ACCESS ROAD - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE (FT-TH)

DESIGN DATA

MAINLINE No. 1
SEE DWG 0300-10

MP NO.

B-row 0.5KM R 1057

CHAINAGE THIS SHEET

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cbl(s) cobble(s) — bldrs Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

s and 35 to 50% — t. trace 10 to 20%
s. some 20 to 35% — t. trace 1 to 10%

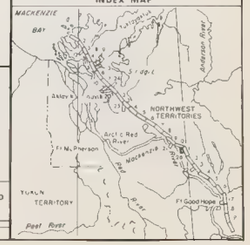
MISCELLANEOUS ABBREVIATIONS

Brk bedrock — G Grass — Mk Moss
c coarse — Lnd land — org organic
dev dense — lyrd layered — veg vegetation
f fine — m medium — vrd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR

A ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 2 3 d 3 3 b 2 3 d)
AFP ACTIVE FLOODPLAIN SAND AND GRAVEL OVERLAYING BARS IN MODERATELY STEEP GRADIENT STREAMS AND SAND OR SILT IN BARS ON LOW ENERGY LOW GRADIENT STREAMS (S 1 2 d 3)
AMP ALLUVIAL MEANDER PLAIN ICE RICH STRATA TO CLAY SILT AND FINE SAND OVER THIN DISCONTINUOUS LAYER OF SAND AND OR GRAVEL OVER TILL OR LIQUIDUS STRATIFIED SILT AND CLAY (S 2 3 d 3 3 b 2 3)
BR BEDROCK TERRAIN VARIABLE TERRAIN WITH VARYING DEPTHS TO BEDROCK (S 1 2 3 d 3 3 b 2 3) TILL MAY BE DISTRIBUTED OVER BEDROCK OR TILL MAY BE MISSING BEDROCK ESCARPMENTS NORTH OF NORMAN WELLS AND OCCASIONAL BEDROCK RIDGES BETWEEN THE PEEL RIVER AND THE YUKON WHITE BORDER (S 1 2 3 d 3 3 b 2 3 d)
CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC AND MORGANIC SILTY AND SAND DEPOSITS CONTAINING SOME CLAY AND ORGANICS PERISH FREQUENTLY WET (S 2 3 d 3 3 b 2 3)
D DELTAIC FINE SAND PLAIN ICE RICH SILT TO PEAT ALLUVIUM OVER STRATIFIED SILTY SAND AND SILTY WITH SOME CLAY AND PEBBLES (S 2 3 d 3 3 b 2 3 d)
CG GRAVELLY SAND (S 2 d 3)
GLAC AL LAKE BASIN BETTER DRAINED TYPE ICE RICH WITH UP TO HIGH OF SAND AND PEBBLES (S 2 3 d 3 3 b 2 3)
GLB GLACIAL LAKE BASIN PERMAFROST TYPE ICE RICH WITH SILT OR CLAY
H HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED
K ABANDONED MELTWATER CHANNELS (S 1 2 d 3 b 2)
KBT KAME TERRACE COMPLETELY STRATIFIED SAND AND OR GRAVEL WITH TILL AND BOULDERS (S 1 2 d 3)
KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF SILTY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OF TEN WITH BOULDERS TILL AND ICE LENSES (S 1 2 d 3)
SD SAND BEDS COMMONLY 2 TO 3 FT THICK OVER TILL (S 2 3 d 3 3 b 2 3) OUTWASH PLAINS AND DELTAS FABULAR BODIES OF SAND AND OR GRAVEL (S 1 2 d 3 3 b 2 3)
RM RIDGE AND KNOB MORAINE LARGELY ROLLING GROUND MORAINE WITH AND WITHOUT GRUNNYHOO FORMS LOW TO MED UP PLASTIC TILL WITH
ESCARPMENT S SEEPINGS UPON TERRAIN TYPE
ABANDONED STRAND LINES (S 2 d b 3)
AFP ACTIVE FLOODPLAIN SEEPINGS ON THE ACTIVE FLOODPLAIN (S 1 2 d)
BRING VALLEY SIDES AND ESCARPMENT SLOPES WITH CLAY TO BOUL
W
WT
BS BOG SPEED LOW THAW THREATENING (S 1 d 3 b 2 3 d 3 3 b 2 3 d)
P ATEAUS BUT GENERALLY 5 TO 10 FT DEEP (S 1 d 3 b 2 3)
STR NG BOG OR PATTERNED FEN GENERALLY 3 TO 10 FT OF PEAT GENERALLY LESS THAN 8 FT (S 2 3 d 3 3 b 2 3)
M LED BOG AND FEN PEATS OR UNPATTERNED PEAT NO POSTGLACIAL PONDED DEPRESSIONS PEAT IS COMMONLY 2 TO 7 FT DEEP BUT LOCALLY MAY REACH 15 FT LOCALLY (S 1 d 3 b 2 3 d 3 3 b 2 3)
SW SWAMP ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS WITH SOME GRAVEL SIZES AND THIN STREAM CHANNELS GENERALLY LESS THAN 8 FT THICK BUT MAY REACH 15 FT LOCALLY (S 1 d 3 b 2 3 d 3 3 b 2 3)
WM WAVE MODIFIED TILL MAINLY A SILTY SANDY TO GRAVELLY MATERIAL LAYER OVER TILL (S 1 d 2 3 d 2 3)

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
COMPRESSOR STATION WITH CHILLING
METER STATION
MATERIAL STOCKPILE SITE
PROPOSED PERMANENT WHARF
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
PROPOSED HIGHWAY
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 22418	208, 209

NO	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1:20 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE
ALIGNMENT SHEET FOR ACCESS ROAD TO BORROW AREA # 1057

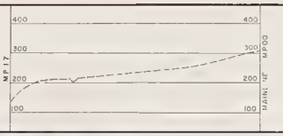
DRAWING/PLAN No. 0300 - 26
SHEET 1 OF 1
FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE

ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S Sand
M - Silt
cbl(s) - cobble(s)
C - Clay

O - Organic
H - High plasticity
Pt Peat
P - Poorly graded
bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

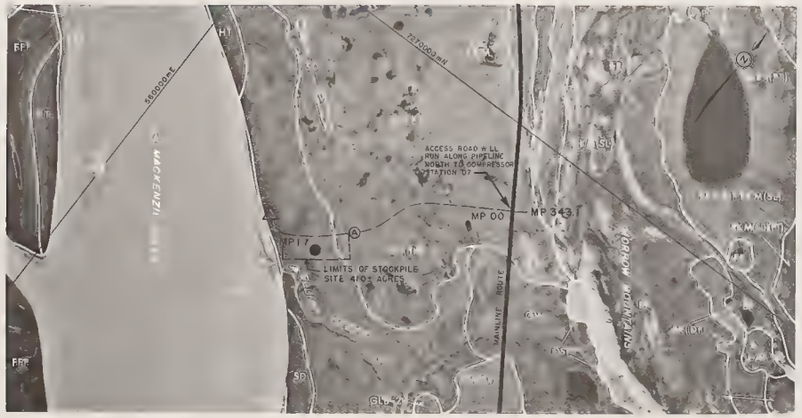
s and 35 to 50%
s. some 20 to 35%
L. - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
c coarse
cvr - cover
f fine

G - Green
Lrvd - layered
m - medium

Mg - Mottled
org organic
veg vegetation
vrd varved



TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
(INCLUDING FRANKLIN MOUNTAINS DIVISION)
GIBSON RIDGE PASS TO WILLOWLAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT - POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3 s1 2w3 & 2 3)
AFP ACTIVE FLOOD PLAIN - EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 1 2 s1 2)
AMP ALLUVIAL MEANDER PLAIN - ICE RICH ORGANIC SILT AND FINE SAND SUBSTRATUM GENERALLY LESS THAN 5 FT THICK OVER DISSECTING COARSE SAND AND/OR GRAVEL OVER TILL (S 2 s1 3 & 3 3)
BR BEDROCK TERRAIN - RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (S 1 2w2 s1 2w3 & 1 2w4)
CAF COALESCING ALLUVIAL FANS - ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL (S 2 2w3 s2 2w3 & 2 2w4)
DL DELTAIC FINE SAND PLAIN - ICE RICH FINE SAND AND SILT WITH SOME SILT CLAY LAYERS (S 2 2w3 s2 2w3 & 2w3 2w4)
DC DELTAIC COARSE SAND PLAIN - FINE TO COARSE SAND WITH SOME GRAVEL (S 1 2 s1 2 & 2 3)
E ESKER RIDGE - MAINLY COMPLEXLY STRATIFIED SAND AND/OR GRAVEL WITH SOME BOULDERS (S 1 2 s1 2w3 & 2 3)
FFP FOSSIL FLOOD PLAIN - MOSTLY THICK OR SILTY TOPSTRATA OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGE BRAIDED RIVERS (S 1 2 s1 2w3 & 2 2w2)
GL&B GLACIAL LAKE BASIN - BETTER DRAINED TYPE GENTLY SLOPING ICE RICH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES (S 2w3 2w4 s2w2 4 & 3 4)
GL&B GLACIAL LAKE BASIN - THERMOKARST TYPE POORLY DRAINED ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 10 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 2 4 s2 4)
HM HUMMOCK MORAINE - LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND/OR SILT PEAT OVERLIES SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS (S 1w2 3 s2 3 & 3 4)
HT HIGH TERRACE - UP TO 15 FT SILT OVER DISSECTING COARSE THIN SAND AND OR GRAVEL ON DEPOSITIONAL TERRACES ADJACENT TO THE MACKENZIE RIVER INCLUDES SOME EROSIONAL TERRACE (S 1 2 s1 2w2 & 1 2w4)
K KAMES - INCLUDES KAMES, KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH (S 1 2 s2 2)
KT KAME TERRACE - POORLY EXPRESSED TERRACES COMPOSED OF QUITE POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS TILL AND ICE LENSES (S 1 2 s1 3)
LB LACUSTRINE BASIN - POST GLACIAL PONDED (LACUSTRINE) DEPOSITS IN LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS, PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 7 FT THICK OVER TILL (S 2 s2 3)
W OUTWASH AND OR OUTWASH DELTA PLAIN - TABULAR BODY OF GRAVEL AND/OR SAND WITH SOME SILT (S 1 2w3 s1 2w3 & 2 2w3)
RKM RIDGE AND KNOLL MORAINE - ROLLING AND OR RIDGED GROUND MORAINE COMPOSED OF TILL (S 1w2 3 s2w3 & 2w3 4)
TS TALUS SLOPES - COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH AN ICE RICH MATRIX (S s1)
EMP ESCARPMENT (* DEPENDS UPON MAP UNIT)
AS ABANDONED STRANDLINES - FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1w2 2w3 s2w3 3)
BG BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS (S 3 & 4)
DR DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 10 FT OF TILL OVER BEDROCK (S 1w2 2w3 s2w3 3)
ER ERODING VALLEY BANKS - LOCALLY CHANNELED BY SURFACE RUN OFF AND/OR UNDERCUT BY STREAM EROSION VARIABLE MATERIALS (S 2w4)
MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS (S 2w3 4 s2w3 4)
OSF OLD OR RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY (S s1w2 2 & 1w2 3)
PG PACK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE NORTHWAR RANGE MIXED ICE AND SILT TO BOULDERS (S 1 s1 3)
SD SAND DUNES MAINLY FINE TO MEDIUM SAND (S s2 3)
SR SINKHOLES IN SOLUBLE BEDROCK (S 1 s3)
TB THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND/OR PEAT (S 2w3 s3w3 & 2w3 3w4)
GT GENERALLY DISCONTINUOUS THIN (GENERALLY LESS THAN 10 FT) GLACIAL DRIFT (MAINLY TILL) SOME SILTY LACUSTRINE DEPOSITS OVER IRREGULAR BEDROCK (S 1w2 2w3 s2w3 & 2w3 3w4)
SM SHALLOW (5 TO 15 FT BUT GENERALLY LESS THAN 10FT) BURIED COAL VEINER NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE DEPOSITIONAL HISTORY AS OLB (SM) (FKM (SM)) S DEPENDS ON TERRAIN TYPE
SL SLOPEWASH EFFECTS BOTH EROSIONAL (NUMEROUS GULLIES RILLS) AND DEPOSITIONAL (COLLUVIUM) DENOTES DEPLETY OF A DISCONTINUOUS SUBSURFACE LAYER 10 TO 15 FT CONSISTING OF ICE RICH ORGANIC SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEBBLES FINER ON OLB AND COARSER ON FKM (S s2 3w4 & 2w3 3w4)
BS SPECKLED WOOD FALSE GALLED PEAT PLATEAUS 3 TO 7 FT (S 2 s2 4 & 2 s2 4)
PT UNPATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENDING 3 TO 15 FT OF PEAT (S 3 s2 4)

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHANGE FROM

DESIGN DATA

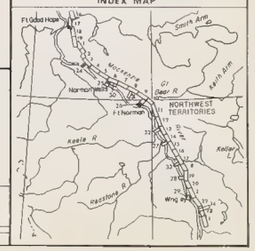
MP 7 TEMPORARY WHARF

MP 00 MAINLINE ROUTE
SEE DRAWING 0400-03

FOOTAGE THIS SHEET

UTM GRID ZONE 9

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
COMPRESSOR STATION WITH CHILLING
METER STATION
MATERIAL STOCKPILE SITE
PROPOSED PERMANENT WHARF
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
PROPOSED HIGHWAY
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGES UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A22387	140, 141

NO	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 10 Miles

DATE MARCH 3, 1975
SCALE 1" TO 2000'
DRAWN BY
CHECKED BY
APPROVED BY
SUPV. ENGINEER

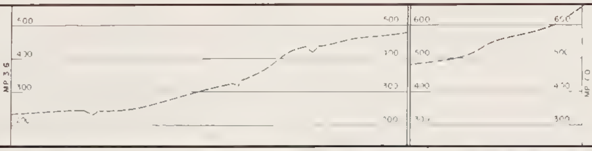
TITLE
ACCESS ROAD TO WHARF
SITE AND STOCKPILE FOR
COMPRESSOR STATION 07

DRAWING/PLAN No 0400-24
SHEET 1 OF 1
FILE No

DRILL HOLE DATA

PROFILE

PIPELINE ——
ACCESS ROAD - - -



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O - Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES: MP 3.6 TEMPORARY WHARF; MP 0 MAINLINE ROUTE SEE DRAWING 0400-14

CONSTRUCTION CHAINAGE

DESIGN DATA

FOOTAGE THIS SHEET

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	
METER STATION		TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF		EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3 MINIMUM DEPTH OF COVER = 2.5 FEET
4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A-22430	23

Nº	DATE	REVISION	APP'D
	APR 3 1975	GENERAL	

UTM GRID ZONE 10

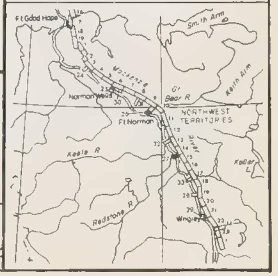
FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 0.5 1.0 Miles

DATE	MARCH 3, 1975	TITLE: ACCESS ROAD TO WHARF AND STOCKPILE SITES FOR COMPRESSOR STATION C-10
SCALE	1" TO 2000'	
DRAWN BY		
CHECKED BY		
APPROVED BY		DRAWING/PLAN No. 0400-27
SUPV ENGINEER		SHEET 1 OF 1 — FILE No.

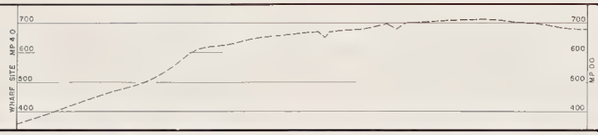
INDEX MAP



DRILL HOLE DATA

PROFILE

PIPE LINE ——
ACCESS ROAD - - - -



CONSTRUCTION DESIGN

DESIGN DATA	CONSTRUCTION CHAINAGE (PIPLINE)	REFERENCE DRAWING & NOTES
	MP 4.0	WHARF AND STOCKPILE SITES
	MP 1.9	ACCESS ROAD TO BORROW AREAS #169 & #170
	MP 0.0	MAINLINE ROUTE SEE DRAWING 0400-9

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
cbl(s) - cobble(s)
C - Clay
O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldrs - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
s - some 20 to 35%
l - little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock
c - coarse
cnr - corner
f - fine
G - Grass
Lnd - forested
fvrd - covered
m - medium
Mo - Moss
org - organic
vg - vegetation
vrd - varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EASTERN MACKENZIE PIPELINE CORRIDOR ON
INCLUDING FRANKLIN MOUNTAINS (1:250,000)
PROVINCE PAGE TO WILLOW LAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS

AFP ALTHOUGH PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS

ABP

ER BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES

AI

EL DELTAIC FINE SAND PLAIN

D DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND IN TOWNE CREEK

E

FFP

GLB BADLAND AREA BADLAND THE ENVIRONMENT IS POORLY DRAINED

GLB2

WM

T

K KAMES INCLUDES KAMES KAME DELTAS AND KAME TERRACES CONSISTING OF COMPLETELY STRATIFIED GLACIOFLUVIAL SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH

KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF CLEAN STRATIFIED SAND AND GRAVEL WITH COBBLES VARIABLE OVERBURDEN DEPTH

B

LOW

FRW

TS FALSE SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ICE IN VOID SPACE

AL ESCARPMENT IS DERIVED FROM WARPING

AB BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS

DR DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK

EVB ERODING VALLEY BANKS LOCALLY CHANNELED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAM EROSION VARIABLE MATERIALS

MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS

OSF

Ro

SL

Ta

Cr

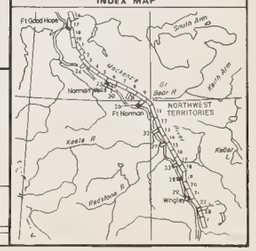
Ca

SS

RS

PT

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	C
COMPRESSOR STATION	C	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING	CC	PERMANENT ACCESS ROAD	A
METER STATION	M	TEMPORARY ACCESS ROAD	A
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF	W	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A22424	149, 150

NO	DATE	REVISION	APP CK
1	APR 30 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 10 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ACCESS ROAD TO WHARF AND STOCKPILE SITES AND BORROW AREAS #169 AND #170

DRAW NO/PLAN No. 0400-28
SHEET 1 OF 1
FILE No.

DRILL HOLE DATA

PROFILE — PIPELINE — ACCESS ROAD

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel	O - Organic
L - Low plasticity	H - High plasticity
S - Sand	Pt - Peat
M - Silt	P - Poorly graded
cbl(s) - cobble(s)	bldrs - Boulders
C - Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%	l - little 10 to 20%
s - some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

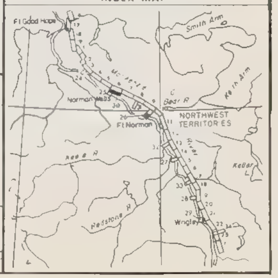
Bdrk - bedrock	G - Grass	Ms - Moss
c - coarse	Lnsd - lensed	org - organic
cvr - cover	lyrd - layered	veg - vegetation
f - fine	m - medium	vvd - varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

CONSTRUCTION DESIGN — REFERENCE DRAWING & NOTES — CONSTRUCTION CHAINAGE — DESIGN DATA

FOOTAGE

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	©
COMPRESSOR STATION	C	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	—Ⓐ—
METER STATION	M	TEMPORARY ACCESS ROAD	--Ⓐ--
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	-------
PROPOSED PERMANENT WHARF	Ⓦ	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF	△	DRILL HOLE LOCATION	
EXISTING WHARF	▲	BORROW AREA	
CNT REPEATER STATION			

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A22387	172, 173, 174

No	DATE	REVISION	APP'D
1	APR. 3 1975	GENERAL	

UTM GRID ZONE 9

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 — 0.5 — 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

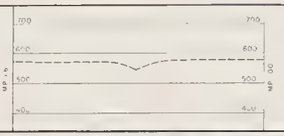
TITLE: ALIGNMENT SHEET FOR LOCATION OF BORROW AREAS NW 21, NW 1 AND PROPOSED PERMANENT WHARF SITE

DRAWING/PLAN No. 0400-30
SHEET 1 OF 1
FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE (METRES)

DESIGN DATA

MP 1.0 — BASIC SEA #261

MP 00 — MAINLINE ROUTE SEE DWG CH00-108

FOOTAGE THIS SHEET

UTM GRID ZONE 9 & 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel	O - Organic
L - Low plasticity	H - High plasticity
S - Sand	Pt - Peat
M - Silt	P - Poorly graded
cb(s) - cobble(s)	bldrs - Boulders
C - Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%	t - little 10 to 20%
s - some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk - bedrock	O - Grass	Mk - Moss
c - coarse	Lnd - landed	org - organic
cvr - cover	tyrd - layered	reg - regression
f - fine	m - medium	vrd - varved

TERRAIN TYPE NO AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPH DIVISION
(INCLUDING FRANKLIN MOUNTAINS DIVISION)
& BISON RIDGE PASS TO WILLOWLAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3 cf 2w3 & 2 3)

AFP ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS (S LARGER SIZE PRO VERY)

AMP ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPSTRATUM GENERALLY LESS THAN 5 FT THICK OVER POORLY SORTED SAND AND GRAVEL (S 1 2 cf 2w3 2)

BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (S 2 3 2w3 & 3w4)

CM [illegible] (S 2 3 2w3 & 2w4)

L [illegible] SAND PLAIN OVER ONE FINE SAND AND SILT WITH SOME [illegible] (S 2 3 2w3 & 2w3 2w4)

D DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME OR [illegible] (S 2 3 2w3 2w4)

E ESKER RIDGE MAINLY COMPLEX BY STRATT TO SAND AND OR GRAVEL [illegible]

FP FOSSIL FLOOD PLAIN MOSTLY THIN ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGE ERRATIC BLOCKS (S 2 3 2w3 2w4)

GLB1 GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLY SLOPING ICE RICH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES (S 2w3 3w4, w3w3 4 & 3 4)

GLB2 GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 1 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAIN NO STAGNANT WATER (S 3 4 4 & 4)

HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVERLIES SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLE HOLES SS PREFERRED (S 2 3 2w3 & 3)

HT HIGH TERRACE UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DEPOSIT GRAVEL TERRACES ADJOINING THE MACKENZIE RIVER OVER INDISCERNIBLE BEDROCK TERRAIN (S 2 3 2w3 & 3)

K KAMES [illegible] (S 2 3 2w3 & 3)

M MOSTLY COMPLEX BY STRATT TO COARSE CONTACT SAND AND GRAVEL [illegible]

P KAMES [illegible] POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE [illegible]

LB UNDULATING BASIN [illegible] IN LARGER FLAT BOTTOMED KETTLE HOLES AND THERMOKARST DEPRESSIONS PEAT COVERING COMPOSED OF ORGANIC AND INORGANIC ELAY SILT AND FINE SAND BEDS (S MINORS 3 TO 7 FT [illegible] 2w3 2w4)

PTD OUTWASH AND OUTWASH PITS PRAIRIE TABULAR BODIES OF ORGANICS AND ORGANIC [illegible] (S 2 3 2w3 & 2w3)

RM RIDGE AND KNOLL MORAINE ROLLING AND OR RIDGED GROUND MORAINE COMPOSED OF TILL (S 1w2 3 2w3 3 & 2w3 4)

TS TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN [illegible] (S 1 [illegible])

ESCARPMENT S DEPENDS UPON MAP UNIT

AS ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1w2 2w3 2w3 3)

BD BEADED DRAINAGE PATTERN ICE RICH SILTY SOILS (S 3 2& 4)

DR DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 15 FT TO [illegible] (S 1w2 2w3 2w3 3)

EVD ERODED VALLEY BANKS LOCALLY CHANNELED BY SURFACE RUN OFF AND DRAINED BY STREAMS [illegible]

WL METWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS (S 2w3 4 2w3 4)

[illegible] OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY [illegible]

RG ROCK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE NORTHWIND MOUNTAINS [illegible]

SD SAND DUNES MAINLY FINE TO MEDIUM SAND (S 2 3)

[illegible] THERMOKARST [illegible] (S 2 3 2w3 & 2w3 2w4)

[illegible] TEMPORARY WATER AND [illegible]

[illegible] (S 2 3 2w3 & 2w3 2w4)

TD GLACIAL DRIFT MAINLY TILL SOME SILTY LACUSTRINE DEPOSITS OVER [illegible] (S 2 2w3 2w3 2w3 2w3 2w4)

SH SHALLOW 0 TO 15 FT BUT GENERALLY LESS THAN 10 FT SUPERFICIAL VEneer NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS CLB 1 (2w3 2w3 2 3) S DEPENDS ON TERRAIN TYPE

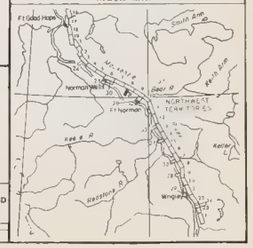
[illegible] (S 2 3 2w3 & 2w3 2w4)

[illegible] ANGULAR [illegible] CONSISTING EXCLUSIVELY OF ICE RICH ORGANIC SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEAT OVERLIES ON CLB AND COARSER ON RM (S 2 2w3 & 2w3 2w4)

BL SPOON BOG 14.50 GALLON FLAT PLATEAUX 3 TO 12 FT OF PEAT

PT UNVATTERED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 3 4 & 4)

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	C
COMPRESSOR STATION	C	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING	R	PERMANENT ACCESS ROAD	A
METER STATION	M	TEMPORARY ACCESS ROAD	A
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF	W	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A21526	69

NO	DATE	REVISION	APP'D
1	SEP 1 1975	GENERAL	L.

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 1.0 M ##

DATE	MARCH 3, 1975
SCALE	1 TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
GUFV ENGINEER	

TITLE
ALIGNMENT SHEET FOR ACCESS ROAD TO BORROW AREA # 281

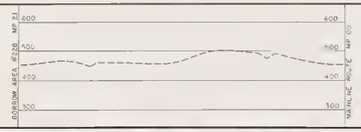
DRAWING/PLAN No. 0400-31

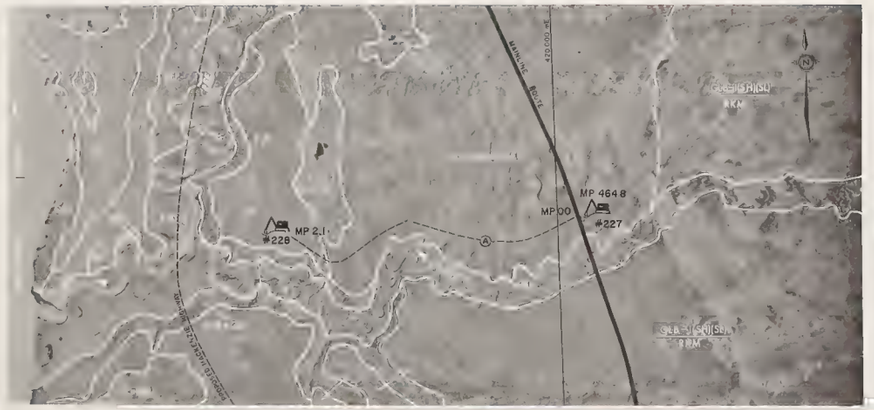
SHEET 1 OF 1

FILE No.

DRILL HOLE DATA

PROFILE
PIPELINE ——
ACCESS ROAD - - - -





CONSTRUCTION DESIGN

DESIGN DATA

CONSTRUCTION DRAWING NOTES

REFERENCE DRAWING NOTES

MP 2.1 — BORROW AREA 228

MP 0.0 — PIPELINE ROUTE & BORROW AREA 227 SEE DWG 0400-31

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cbl(cl) cobble(cl) — bldr Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50% — l - little 10 to 20%
s - some 20 to 35% — t - trace 1 to 10%

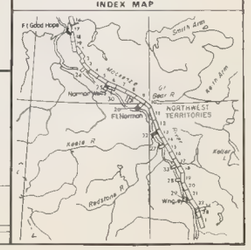
MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — G Grass — Mk Moss
c coarse — Lnsd loosed — org organic
cov cover — r,d rounded — veg vegetation
f fine — m medium — vsd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
INCLUDING FRANKLIN MOUNTAINS AND DISCOVERY
GIBSON RIDGE AREA TO WILLOWLAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (1 1 3 vl 2n3 8 3 3)
AFF ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS
AMP ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPSTRATUM GENERALLY LESS THAN 5 FT THICK OVER DISSIMILAR SAND AND OR GRAVEL OVER TILL
BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES
CF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL
DL DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS
D DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL
E ESKER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL
FFP FOSSIL FLOOD PLAIN MOSTLY THICK ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGER BRADED RIVERS
G,B GLACIAL LAKE BASIN DEPRESSIONAL SECTION SMALL TO MEDIUM SIZE WITH ICE RICH SILTY CLAY BOTTOM OVER TILL WITH OR WITHOUT OR NO THERMOKARST FEATURES
G,B GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH WEDGE UNDERLAIN BY CALCAREOUS SILTY CLAY BOTTOM UP TO 15 FT DEEP PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER
HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVERLIES SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLE HOLES
F HIGH TERRACE UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DISCONTINUOUS TERRACES ADJACENT TO THE MACKENZIE RIVER INCLUDES SOME EPISODIAL TERRACES
K KAMES INCLUDES KAMES KAME DELTAS AND KAME TERRACES COMPOSED OF COMPLEXLY STRATIFIED ICE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH
RT RAISED TERRACE POORLY EXPRESSED TERRACES COMPOSED OF DIRTY POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS TILL AND ICE LENSES
R ALLUVIATING BASIN POTOLAKA PONDED LACUSTRINE DEPOSITS ESCHINE PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 7 FT THICK OVER TILL
OH OUTWASH AND OR OUTWASH DELTA PLAIN TABULAR BOD ESCHINE GRAVEL
RM RIDGE MORAINE MORAINE RIDGES AND OR DISSECTED MORAINE
ROCK SLOPES COARSE GRAVEL AND BOULDER DEBRIS OFTEN WITH AN ICE RICH MATRIX
ES ESCARPMENT S DEPENDS UPON MAP UNIT
AS ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS
DR DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 1 FT OF OVERBURDEN
EV ERODING VALLEY BANKS LOCALLY CHANNELLED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAM EROSION VARIABLE MATERIALS
MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE MATERIALS
OL OLD AND RECENT SLOPE FAILURES SLUMPS AND SLUMPING SAND GRAVEL
RG ROCK AND TALUS GLACIERS ALONG THE WESTERN MOUNTAIN RANGE MIXED ICE AND SILT TO BOULDERS
SD SAND DUNES MAINLY FINE TO MEDIUM SAND
SH SINKHOLES IN SOLUBLE BEDROCK
TK THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS IN THE STAGNANT WATER AND OR PEAT
LC LACUSTRINE DEPOSITS MAINLY FINE GRAINED MATERIALS LESS THAN 10 FT DEEP
RDM RADIAL DRAINAGE MOSTLY TILL SOME SILTY LACUSTRINE DEPOSITS OVER IRREGULAR BEDROCK
SP SHALLOW 15 TO 15 FT BOG GENERALLY LESS THAN 10 FT SUPERFICIAL WATER NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS BOG FORM DRAINAGE S DEPENDS ON TERRAIN TYPE
SL SLUMPING AND DEBRIS FLOW DEPOSITS MAINLY FINE GRAINED AND DEBRIS FLOW DEPOSITS
BS SPECIALED BOGS ALSO CALLED PEAT PLATEAUS 3 TO 10 FT DEEP
PT UNPATTERNED PEATLAND NO DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT DEEP

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
COMPRESSOR STATION WITH CHILLING
METER STATION
MATERIAL STOCKPILE SITE
PROPOSED PERMANENT WHARF
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
PROPOSED HIGHWAY
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A11974	269, 269

NO	DATE	REVISION	APD
	APR 4 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 1.0 Miles

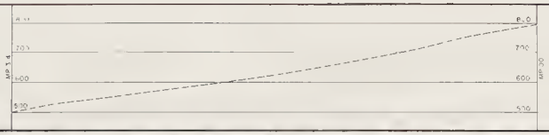
DATE	MARCH 3, 1975	TITLE	ALIGNMENT SHEET FOR ACCESS TO BORROW AREA # 228
SCALE	1" TO 2000'		
DRAWN BY			
CHECKED BY			
APPROVED BY		DRAWING/PLAN No.	0400-32
SUPV ENGINEER		SHEET 1 OF 1	FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD - - - -



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Low plasticity
S Sand
M Silt
cb(s) cobble(s)
C Clay

O Organic
H High plasticity
Pt Peat
P - Poorly graded
bldr(s) Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%

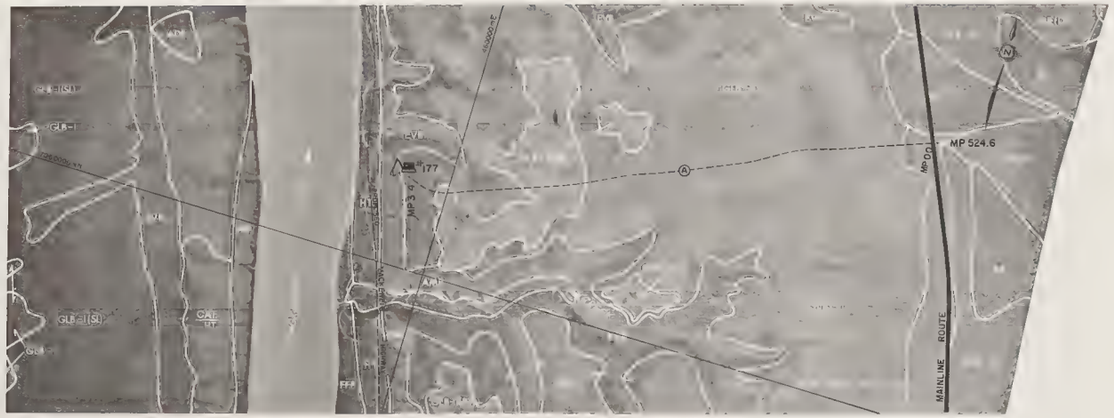
l - little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
c coarse
cvr cover
f fine

G - Grass
Lmd laminated
layrd layered
m medium

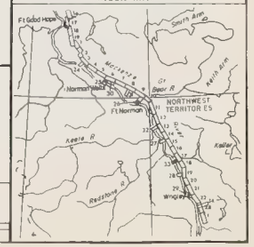
Mx Moss
org organic
vsg vegetation
w/ - varved



TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
ALONG THE FRANKLIN MOUNTAINS DIVISION
FROM RUSSELL PASS TO WILLOW LAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT - POORLY SORTED SILT SAND GRAVEL SOME COBBLES (S 1 2x2 1)
AFP ACTIVE FLOOD PLAIN - EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 1 2x2 3)
AMP ALLUVIAL MEANDER PLAIN - ICE RICH ORGANIC SILT AND FINE SAND TOPSTRATUM GENERALLY LESS THAN 5 FT THICK OVER ICE SOMETIMES MORE THAN 20 FT THICK (S 1 2x2 3)
BR BEDROCK TERRAIN - RIDGES AND NEARBY STEEP MOUNTAIN SLOPES
BI COALESCING ALLUVIAL FANS - CE R CH POORLY SORTED ORGANIC SILT SAND AND GRAVEL (S 2 2x3 1 2x2 3 2x4
DELTA C FINE SAND PLAIN - CE RICH FINE SAND AND SILT WITH SOME
DELTA C COARSE SAND PLAIN - FINE TO COARSE SAND WITH SOME GR
E ESKER RIDGE - MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL
FFP FOSSIL FLOOD PLAIN - MOSTLY THIN ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGE
GLB GLACIAL LAKE BASIN - BETTER DRAINED TYPE - GENTLY SLOPING CE R WITH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY IN THICK
GLB GLACIAL LAKE BASIN - THERMOKARST TYPE - POORLY DRAINED CE R ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY IN 5 TO 15 FT OF PEAT AND IN DEEPER THERMOKARST FEATURES CONTAIN NO STAGNANT WATER
HM HUMMOCKY MORAINE - LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVER ICES SHALLOW PONDED SILTY CLAY SEDIMENTS - KOLDER KETTLEHOLE DE
HT HIGH TERRACE - UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL IN DEPOSITIONAL TERRACES ADJOINING THE MACKENZIE RIVER - INCLUDES SOME ERODIONAL TERRACES (S 1 2x2 1 3x3 3 1 2x4
K KAMES - INCLUDES KAMES KAME DELTAS AND KAME TERRACES DE MOSTLY OF COMPLEXLY STRATIFIED CE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH (S 1 2x2 1 3x3 3 1 2x4
KT KAME TERRACE - POORLY EMPTIED TERRACES COMPOSED OF SAND AND OR GRAVEL WITH COBBLES AND GRAVELS WITH VARIABLE OVERBURDEN BOULDERS PILLAR AND ICE LENSES (S 1 2x4 2)
L LACUSTRINE DEPOSITS - POSTGLACIAL PONDED LACUSTRINE DEPOSITS - LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BELOW COMMONLY 2 TO 3 FT THICK OVER TILL (S 2x3 2x2 3x4
M DUTWASH AND OR OUTWASH DELTA PLAIN - TABULAR BODIES OF GRAVEL AND OR SAND WITH SOME SILT (S 1 2x2 1 2x3 3 2x3
MM MORAINE - HILLY MORAINE - ROLLING AND OR HIGHER RELIEF THAN KAME COMPOSED OF TILL (S 3x3 3 3x4 3 2x3 3 2x3 4
P PIPES - COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ICE RICH MATRIX (S VI
R ESCARPMENT - S DEPENDS UPON MAP UNIT
RS ABANDONED STRANDLINES - FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1 2x2 2x3 2x3 3
S DRUMLIN FIELD PATTERN
DR DRUMLINIZED AND FLUTED SURFACES - COMMONLY LESS THAN 15 FT OF
FLS FLOODING VALLEY BANKS - LOCALLY CHANNELED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAM EROSION - VARIABLE MATERIALS
MR MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS - VARIABLE FINE TO COARSE WATER ALL (S 2x2 4 2x3 4
LS OLD AND RECENT SLOPE FAILURES - SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY (S 1 1x2 2 1x2 3
RT ROCK AND TALUS GLACIERS ALONG THE WESTERN FRONT OF THE NORMAN RANGE - MIXED CE AND SILT TO BOULDERS (S 1 1 3
D SAND DUNES - MAINLY FINE TO MEDIUM SAND (S 1 2 3
SK SINKHOLES IN SOLUBLE BEDROCK (S 1 2 3
TK THERMOKARST DEVELOPMENT - LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 2x3 4x3 1 3x3 3x4
TS TILL SHEET - MORAINE GENERALLY LESS THAN 15 FT OF GLACIOFLUVIAL TILL SOME SILTY LACUSTRINE DEPOSITS OVER IRREGULAR BEDROCK (S 1x2 2x3 3x3 3 2x3 3x4
SU SHALLOW SILTS - BUT GENERALLY LESS THAN 10 FT SUPERFICIAL VEGETATION - NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY AS GLB (SU) AND (BR) (S DEPENDS ON TERRAIN TYPE
SP SUSPENSION EFFECTS - BOTH EROSIONAL - NUMEROUS GULLIES RILLS AND DEPOSITIONAL - COLLUVIUM - CONSISTS OVERLY OF A SOMETIMES SUPERFICIAL LAYER (3 TO 15 FT) CONSISTING OF CE RICH ORGANIC SILT AND SILTY SAND WATER ALL WITH OR WITHOUT PEBBLES FINER ON LOB AND COARSER ON PRAIR (S 1 2x4 2 2x3 3x4x
SL SPOILED RIDGE (ALSO CALLED PEAT PLATEAUX) 3 TO 15 FT OF PEAT (S 3 4 4
PP UNPATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 3 4 4

INDEX MAP



CONSTRUCTION DESIGN

DESIGN DATA

CONSTRUCTION CHAINAGE (FEET)

REFERENCE DRAWING & NOTES

MP 3.4

BORROW AREA #177

MAINLINE ROUTE
SEE DWG 0400-17

MP 20

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A22424	252, 253

NO	DATE	REVISION	APP'D
1	APR 30 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 10 Miles

DATE	MARCH 5, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE: ALIGNMENT SHEET FOR ACCESS ROAD TO BORROW AREA #177

DRAWING/PLAN No. 0400-33

SHEET 1 OF 1

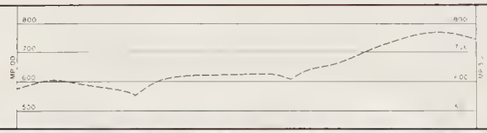
FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD - - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE (M-KM)

MAINLINE ROUTE SEE DWG 0400-23

BORROW AREA #142

MP 0.0

MP 7.4

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O - Organic
L Low plasticity — H - High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
rb(r) cobble(s) — bldrs Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — 1 - little 10 to 20%
s some 20 to 35% — t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — G Grass — Mb Moss
c coarse — Lrvd layered — org organic
cov cover — lyrd layered — veg vegetation
f fine — m medium — wvd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
INCLUDING FRANKLIN MOUNTAINS DIVISION
OBSON RIDGE PASS TO WILLOWLAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3 s1 2w3 B 3)

AFP ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS (S 1 3 s1 2w3 B 3)

AWP ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPOTRATUM GENERALLY LESS THAN 6FT THICK OVER DISCONTINUOUS SAND AND OR GRAVEL OVER TILL (S 1 3 s1 2B3 3)

BR BEDROCK TERRAIN R OCKS AND NEARBY STEEP MOUNTAIN SLOPES (s1 1 s1B 1 s4 s1B 1 s4)

AF ALLUVIAL FAN ICE R CH POORLY SORTED ORGANIC CLAY SILT SAND GRAVEL (S 1 3 s1 2w3 B 3)

D DELTAIC NEAR SAND PLAIN ICE RICH FINE SAND 2m 3m 4c OVER SOME SILTY CLAY LAYERS (S 1 2w3 s1 2w3 B 2w3 2w4)

B BELT SAC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL SIDES (S 1 3 s1 2B3 3)

E ESKER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL MINOR SILT INCLUSIONS (S 1 3 s1 3)

FFP FOSSIL FLOOD PLAIN MOSTLY THIN ICE R CH SILTY TOPOTRATUM OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGE ERRATIC RIVERS (S 1 3 s1 2w3 B 3 2w3)

LB1 GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLY SLOPING ICE R CH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES (S 2w3 3w4 c2w3 4 B 3 4)

LB2 GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY (S 1B 1P 1S 1B 1T 1B)

PT PEATLAND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 3 1 s1 4)

HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL WITH SOME SAND AND OR SILT PEAT OVER LESS SHALLOW PONDED SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS (S 1w2 3 s1 2B 2 4)

HT H CH TERRACE UP TO 15 FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DEPOSITIONAL TERRACES ADJOINING THE MACKENZIE RIVER INCLUDES SOME EROSIONAL TERRACES (1 2w2 1 c2B 2w4)

K KAMES INCLUDES KAMES KAME DELTAS AND KAME TERRACES COMPOSED OF SAND AND GRAVEL WITH COBBLES AND BOULDERS WITH VARIABLE EXPOSED CONTACT SAND AND GRAVEL (S 3 s1 3)

KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF OPEN FT POORLY SORTED SAND AND OR GRAVEL WITH COBBLES VARIABLE OFTEN WITH BOULDERS TILL AND ICE LENSES (S 1 3 s1 3)

B INDUSTRIAL BIG IG POTLACH PONDED HAZARDOUS DEPOSITS IN LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS PEAT COLLAPSED COMPOSED OF ORGANIC AND INORGANIC SILT AND FINE SAND BEDS COMMONLY 2 TO 7 FT THICK OVER TILL

OD OUTWASH AND OR DELTA PLAIN TABULAR BOULDER GRAVEL AND OR SAND WITH SOME SILT (S 1 2w3 s1 2w3 B 2 2w3)

RM RIDGE AND SMALL MORAINE ROLLING AND OR RIDGED GROUND MORAINE COMPOSED OF TILL (S 1w2 3 c2w3 2B 2w3 4)

TI TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH AN ICE R CH MATRIX (S s1)

ESCARPMENT S DEPENDS UPON MAP UNIT

AL ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS (S 1w2 2w3 c2w3 3)

RD BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS (1 s1B 4)

DR DRUMLIN ZED AND FLUTED SURFACES GENERALLY LESS THAN 15 FT TILL OVER BEDROCK (S 1w2 2w3 c2w3 3)

EROD NO VALLEY BANKS LOCALLY CHANNELLED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAM EROSION VARIABLE MATERIALS (S 1 3 s1 2w3 4)

W WELLWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS (S 2w3 4 c2w3 4)

L OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY (S s1w2 3 B 1w2 3)

RC ROCK AND TALUS CLIMBERS ALONG THE WESTERN FRONT OF THE NORTHMAN RANGE MIXED ICE AND SILT TO BOULDERS (S 1 s1 3)

SD SAND DUNES MAINLY FINE TO MEDIUM SAND (S s2 3)

SH SINKHOLES IN SOLUBLE BEDROCK (S 1 s1)

T THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 2w3 c2w3 B 2w3 3w4)

C GENERALLY DISCONTINUOUS THIN (GENERALLY LESS THAN 10 FT) COLLUVIAL DRIFT MAINLY TILL SOME SILTY LACUSTRINE DEPOSITS OVER UNCONSOLIDATED BEDROCK (S 1 3 s1 2w3 4)

SH SHALLOW TILL BUT GENERALLY LESS THAN 10FT (S B P c2w3 s1)

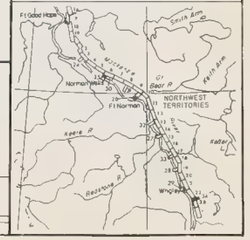
TL TERRAIN SENSITIVITY ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY ALLOWABLE RIGHT OF WAY S DEPENDS ON TERRAIN TYPE

L SLOPE WASH EFFECTS BOTH EROSIONAL NUMEROUS GULLIES RILLS AND DEPOSITIONAL COLLUVIUM CONSISTS CHIEFLY OF A DISCONTINUOUS SILT OVER TILL LAYER UP TO 15 FT CONSISTING OF ICE RICH ORGANIC SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEBBLES FINER ON SLOPE AND COARSER ON FAN (S s2 3w4 B 2w3 3w4)

B SPECKLED BOGS (ALSO CALLED PEAT PLATEAUS) 3 TO 10 FT OF PEAT (S 3 s1 4)

P SUPATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENDING 10 TO 15 FT OF PEAT (S 1 4 s2 4)

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
COMPRESSOR STATION WITH CHILLING
METER STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
PROPOSED PERMANENT WHARF
EXISTING WHARF
CNT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
PROPOSED HIGHWAY
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3 MINIMUM DEPTH OF COVER = 2.5 FEET
4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

AERIAL PHOTOGRAPHS

ROLL NO	PHOTO NO
A 23229	109

NO	DATE	REVISION	APP'D
	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 0.5 1.0 Miles

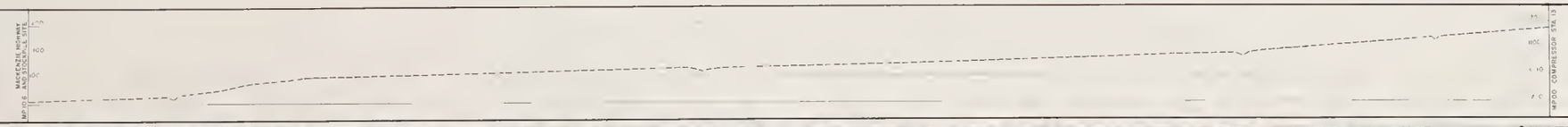
DATE	MARCH 3 1975
SCALE	1:1000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

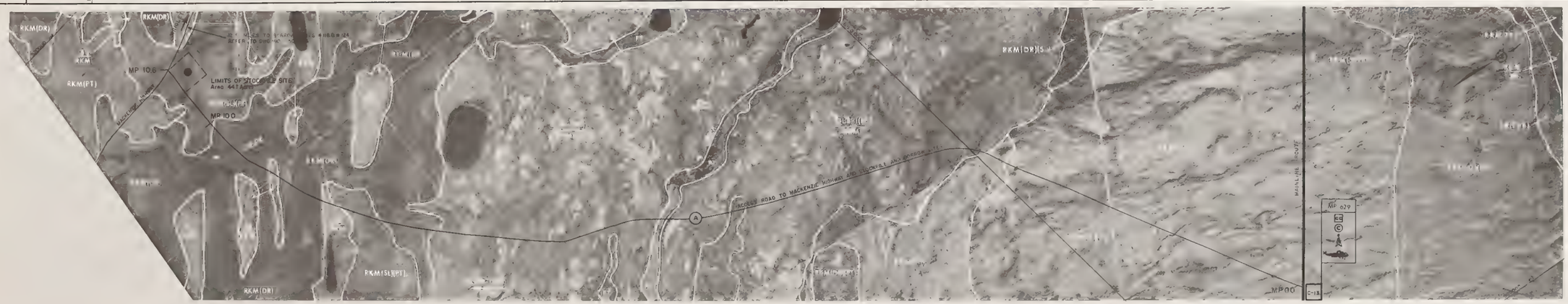
TITLE
ALIGNMENT SHEET FOR ACCESS TO BORROW AREA # 142

DRAWING/PLAN No. 0400-34
SHEET 1 OF 1
FILE No.

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
S Sand
M Silt
cbls cobbles
C Clay
O Organic
P Peat
F Poorly graded
bldrs Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

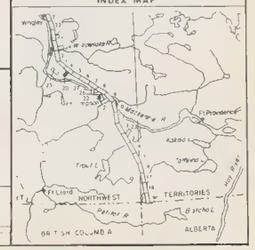
MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
c course
cr coarse
f fine
Gr Grass
Lrd layered
lyrd layered
m medium
Mr Moss
org organic
vegetation
vrd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

SPECKLED BOG WITH SOCKEYE LEDRUM PARFAIRI 3 TO 12 FT OF PEAT
ERIO PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 18 FT OF PEAT
AND EXCEPTIONALLY UP TO 15 FT OF PEAT

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 23468	35

NO.	DATE	REVISION	APPD.
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 0.5 1.0 Miles

DATE MARCH 3, 1975
SCALE 1" TO 2000'
DRAWN BY
CHECKED BY
APPROVED BY

TITLE ACCESS ROAD FROM MACKENZIE HIGHWAY TO COMPRESSOR STATION 13

DRAWING PLAN No. 0500-20
SHEET 1 OF 1
FILE

DRILL HOLE DATA

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

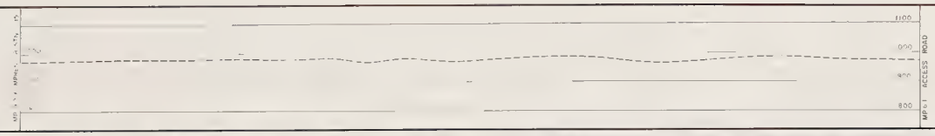
G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
(Bmf) cobbles(s)	Bdr's Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

s and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock	Gr Grass	Mc Moss
c course	Loos loosen	org organic
cv cover	layd layered	veg vegetation
f fine	m medium	wd wood



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHAINAGE m km

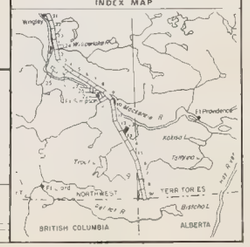
MAIN AIR ROUTE

MATERIAL STOCKPILE

DESIGN DATA

UTM GRID ZONE 10

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL, AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A21528	33, 34, 35

NO	DATE	REVISION	APP'D
	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 5 10 15 Miles

DATE	MARCH 3, 1975
SCALE	1" = 2000'
DRAWN BY	Hardy
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

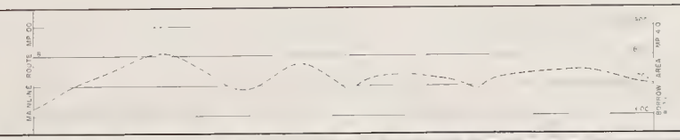
TITLE
ALIGNMENT SHEET FOR
ACCESS ROAD TO
COMPRESSOR STATION C-15

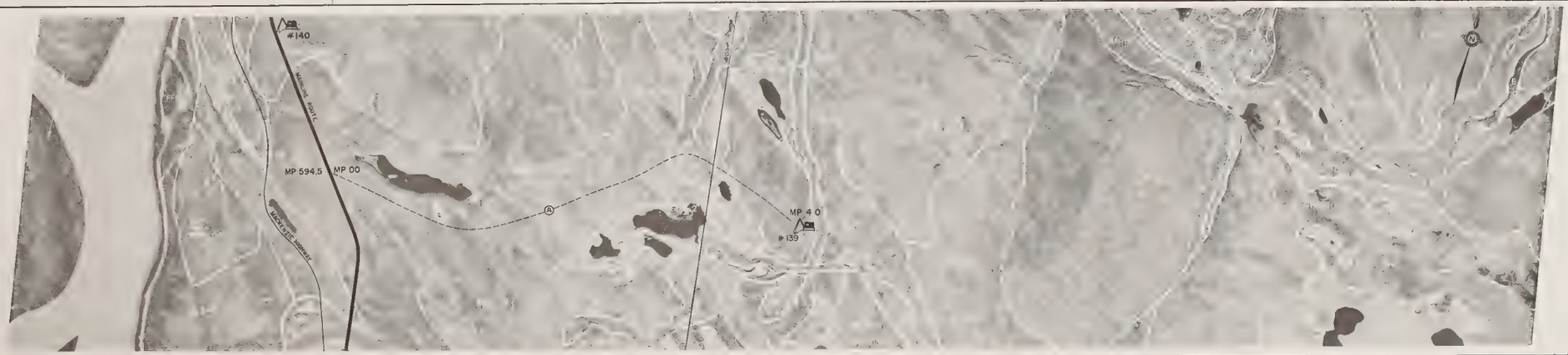
DRAWING/PLAN No. 0500-23
SHEET 1 OF 1
FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE ——— ACCESS ROAD - - - - -





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

DESIGN DATA

MAINLINE ROUTE

BORROW AREA #139

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cobbl Cobbles — bldr Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — l little 10 to 20%
s some 20 to 35% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — Gr Grass — Ms Moss
c coarse — f,fol forked — org organic
cov cover — layd layered — veg vegetation
f fine — m medium — vnd veined

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
GREAT SLAVE FLIGHT PHOTOGRAPHIC DESIGN
FROM
WILLOW LAKE RIVER TO NAHANI BUTTE RIVER

1 ALLUVIAL FAN SPOT: POORLY SORTED SILT SAND GRAVEL SOME ICE

1A ALLUVIAL MEANDER PLAIN: ICE RICH ORGANIC SILT AND FINE SAND STRATUM GENERALLY LESS THAN 6 FT THICK OVER FROZEN MUDDY SAND AND GRAVEL OVERTILL

1T BEDROCK TERRAIN: RIDGES AND KAMES (STEEP MOUNTAINSIDES)

1AF DEVELOPING ALLUVIAL FAN: ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL

2 DELTAIC FINE SAND PLAIN: ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS

2T DELTA: COARSE AND FINE TO COARSE SAND WITH SOME GRAVEL

3 ESKER: ICE, WALNEY COMPLEX, STRATIFIED SAND AND GRAVEL WITH MINOR SILT INCLUSIONS

3T FLOOD PLAIN: MOSTLY THICK ICE RICH SILTY TOPSTRATUM OVER SAND AND GRAVEL WITH OBJECTS ASSOCIATED WITH LARGE ICE BODIES

4 GLACIAL LAKE BASIN: BETTER DRAINED TYPE GENERALLY DEEP NO ICE OR STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY AND SAND WITH FEW OR NO THERMOKARST FEATURES

4T GLACIAL LAKE BASIN: THERMOKARST TYPE POORLY DRAINED SAND AND OR PONDED MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 8 FT OF PEAT AND OR SPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER

5 MORAINE: KNOB AND KETTLE MORAINE COMPOSED OF TILL WITH MINOR SAND AND GRAVEL INCLUSIONS

5T HIGH TERRACE: UP TO 15 FT SILT OVERLAID SLIGHT MUDDY FINE SAND OR

6 OTHER AREAS

6T DELTA FAN AND OR DELTA-MARSH DELTA PLAIN: TABULAR ROCK OR GRAVEL AND OR SAND WITH SOME SILT

6AT ROCK AND VARIOUS MORAINE: ROLLING AND VARIABLE BEDROCK COMPOSED OF TILL, SAND, GRAVEL

7 FAULT SCARPS: COARSE GRAVEL AND ANGULAR BOULDERS

8 ESCARPMENT IS DEPENDS UPON TERRAIN TYPE:
1 ROCK TESTS AND LOSES FORMER COARSE ALLUVIAL SHORELINE
2 TO COARSE DEPOSITS

8T BEADED DRAINAGE PATTERN: IN ICE RICH SILTY SOIL

9 OTHER AREAS: NARROW SUBLINEAR RIDGES OF SILT SAND GRAVEL

9T,9AT ERODING VALLEY BANKS: LOCALLY CHANNELLED BY SURFACE RUNOFF AND OR UNDERCUT BY STREAM FLOW OR VARIABLE MATERIALS

9C MILLWATER CHANNELS AND ABANDONED MODERNE PIPELINE CHANNELS: VARIABLE FINE TO COARSE WATER AIR

9S OLD AND RECENT SLOPE FAILURES: DEBRIS AND SLUMPS COMMONLY SAND

10 MARSH AND OR PEAT

10T WELL DRAINED TILL: MARGINALLY THIN SANDY TO GRAVELLY WASHED LAYER OVER TILL OR LACUSTRINE DEPOSITS

11 SILT OF LOCS OR ALLUVIAL SAND SILT ABLATION TILL: OVER LOCS MENT TILL

11T GENERALLY DISCONTINUOUS THIN SEDIMENTS LESS THAN 50 FT: COARSE DRIFT MAINLY TILL, SOME SILTY LACUSTRINE DEPOSITS OVER PRECAMBRIAN

12 SHALLOW (5 TO 15 FT BUT GENERALLY LESS THAN 10 FT) SUPERIMPOSED LOCESS ON ALLUVIAL PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY FROM VIEW

12T,12C BOTH EROSIONAL WITHDRAWAL SURFACES ALLUVIAL AND

13 GROUND WATER AIR OR OR ENDOT PEBBLES FINER ON LAB AND OR MARSH

14 UNPATTERNED PEATLAND IN DISTRIBUTION OFTEN EXTENSIVE 3 TO 15 FT OF PEAT

15 STRING BOG FALSE GALLED PATTERNED OR THREE DEPTH COMMONLY 3 TO 10 FT AND EXCEPT GENERALLY UP TO 15 FT OF PEAT

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MODEL AND SUPPLY MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3 MINIMUM DEPTH OF COVER = 2.5 FEET
4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

AERIAL PHOTOGRAPH

ROLL NO — PHOTO NO

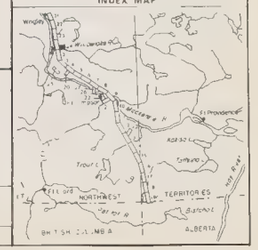
No.	DATE	REVISION	APP'D
		GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

10 Miles

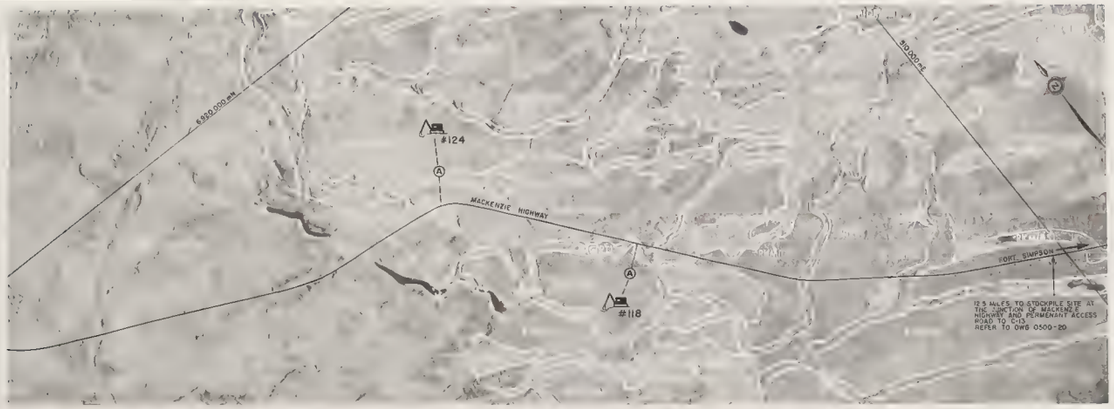
DATE	MARCH 3, 1975	TITLE
SCALE	1 TO 2000'	ALIGNMENT SHEET FOR ACCESS TO BORROW AREA #139
DRAWN BY		
CHECKED BY		
APPROVED BY		DRAWING PLAN No. 0500-24
ENGINEER		SHEET 1 OF 1 — FILE No.

INDEX MAP



DRILL HOLE DATA

PROFILE
PIPE LINE
ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cobbles	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bldr Bedrock	Gl Glacial	Mn Marine
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
GREAT SLAVE LAKE PIPELINE COMMISSION
[illegible]
N. LOWLAND & VER TO NWT, ALBERTA BORDER

[illegible] ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3a-d 1 2a-b 3a-b)

[illegible] ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOP STRATUM GENERALLY LESS THAN 5 FT THICK OVER A STONY TO SOFT SAND [illegible]

[illegible] RIVER VALLEY SIDES AND NEARBY STEEP HILLSIDES [illegible]

[illegible] COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED CIRCULAR SILT SAND AND GRAVEL (S 2a-b d 2-a-b 7 2a-b)

[illegible] DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS (S d 2a-b)

[illegible] DELTAIC COARSE AND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL [illegible]

[illegible] RIVER VALLEY COMPLEXLY STRATIFIED SAND AND GRAVEL WITH [illegible] SILT AND COBBLES

[illegible] FOSS FLOOD PLAIN MOSTLY THIN ICE RICH SILTY TO PEAT TUNDRA OVER ALLUVIAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGER BRAIDED RIVERS (S 1 3 d 3a-b 2 2a-b)

GLB 1 GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLY SLOPING ICE RICH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY AND SAND WITH FEW [illegible] (S 2 3a-b 7 4)

GLB 2 GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED SAND AND CLAY ICE RICH HIGHLY TO SLIGHTLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER [illegible]

HM MORAINE MORAINE KNOB AND KETTLE MORAINE COMPOSED OF TILL WITH MINOR SAND AND GRAVEL INCLUSIONS (S 1 3 d 2a-b 7 2a-b)

HT HIGH TERRACE UP TO 15 FT SILT TO LOW DIOXITY MOUNTAIN SAND OR [illegible] DEPOSITION TERRACES RESULTING FROM MORAINE [illegible] SLAVE ORIGINAL TERRACES MORE SANDY AND GRAVELLY ALONG [illegible]

[illegible] OUTWASH AND DELTA GRAVEL TERRACE TABULAR BODIES OF GRAVEL AND SAND SMALL TO LARGE (S 1 3 d 2a-b)

[illegible] MOUNTAINOUS MORAINE ROLLING AND OR STEEP GROUND MORAINE [illegible]

[illegible] TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OF TERRAIN [illegible] (S 1)

[illegible]

AS ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE [illegible] COARSE DEPOSITS (S 1 3a-b d 2a-b 7 2a-b)

BD BEADED DRAINAGE PATTERN NICE RICH SILTY SOIL (S 2 3 d 2a-b)

[illegible] GREYBACK RIDGES NAPPE OR SOLUTION RIDGES OF SILT SAND GRAVEL AND ABSORBED FILL [illegible]

[illegible]

[illegible] UNDERCUT BY STREAM EROSION VARIABLE WATER [illegible]

MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNEL VARIABLE FINE TO COARSE MATERIALS (S 2 3 [illegible]

[illegible] OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY OVER SILTY CLAY (S d 1 2a-b)

SD SAND DUNES MAINLY FINE TO MEDIUM SAND (S d 3)

TK THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT (S 3 3 d 2a-b 7a-b)

WM WAVE MODIFIED TILL MAINLY A THIN SANDY TO GRAVELLY WASHED LAYER OVER TILL OR LIQUEFIANE DEPOSITS (S 2 3a-b d 7a-b)

AB 2 TO 5 FT OF LOOSE GRAVELLY SAND SILT ABLATION TILL OVER LOOSE MATERIAL

[illegible] GENERALLY DISCONTINUOUS THIN GENERALLY LESS THAN 10 FT OF LOOSE OR FT MAINLY TILL SOME SILTY LACUSTRINE DEPOSITS OVER IRREGULAR BEDROCK (S 1 [illegible] 2a-b 3 2a-b 7a-b)

[illegible] SHALLOW 5 TO 15 FT BUT GENERALLY LESS THAN 10 FT SOMETIMES LENGTHY NOTE ICING STRUCTURAL TERRAIN TYPES TO DETERMINE STRATIGRAPHY [illegible] (S 2a 2a-b)

[illegible] SLOPE WASH EFFECTS BOTH PERIODICAL INCREASING WITH [illegible] AND [illegible]

[illegible]

P SPHAGNUM BOGS ALSO CALLED PEAT PLATEAUS 3 TO 15 FT OF PEAT

[illegible] WATERLOGGED PEAT LAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 2 4 d 2-d)

[illegible] STRINGBOGS ALSO CALLED PATTERNED LANDS BLOCKS COMMONLY 3 TO 15 FT AND EXCEPTIONALLY UP TO 15 FT OF PEAT (S 2 4 d 2-d)

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

INTERPRETATION CHANGE [illegible]

DESIGN DATA

BORE No. BORE # 24

BORE No. BORE # 11

FOOTAGE THIS SHEET

UTM GRID ZONE 10

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

AERIAL PHOTO REFERENCE

ROLL NO.	PHOTO NO.
A23488	80, 81

No.	DATE	REVISION	APP'D
1	JUNE 9 1975	GENERAL	[illegible]

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

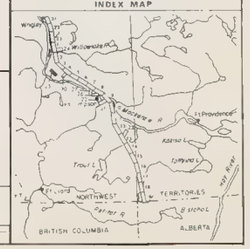
0 0.5 10 MILES

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	[illegible]
C.P.L. ENGINEER	[illegible]

TITLE
ALIGNMENT SHEET FOR ACCESS TO BORROW AREAS 118 & 124

DRAWING/PLAN No. 0500-25
SHEET 1 OF 1
FILE No.

INDEX MAP

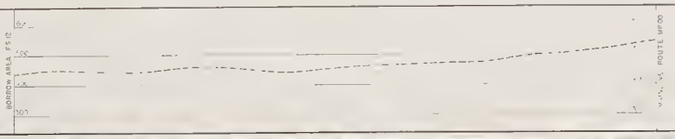


DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

BORROW AREA # FS12

BORROW AREA # FS13

MAIN PIPE ROUTE SEE DWG. 0500-19

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cobbl cobble st	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS

MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Brck	brick	Gr Grass	Mx Mixed
"	"	Lmd laminated	org organic
"	"	lyrd layered	veg vegetation
f fine		m medium	well varved

TERRAIN MAPPING AND TERRAIN CONDITIONS LEGEND

GREAT SLAVE PLAIN

ALLUVIAL FAN DEPOSITS: POORLY SORTED SILT SAND GRAVEL SOME COBBLES

DE HIGH ORGANIC CLAY AND FINE SAND TOP HAS SILT TO 1 M OVER LOOSE CLAY, SOME ICE

MOUNTAINS STEEP MOUNTAIN DOMES

SANDY SAND WITH SOME GRAVEL

CHERT ICE MEANLY COMPLEX SILT STRATA TO SAND AND GRAVEL WITH

ROCK FLOOR MOSTLY BEDROCK ONLY SOMETIMES VERY SHALLOW ALLUVIAL SAND AND GRAVEL WITH (E) ASSOCIATED WITH LAKE BASIN

GLACIAL LAKE BASIN: BESTER OR SILT STRATIFIED SAND AND SAND WITH ICE STRATIFIED TO ONLY PLASTICS SILT CLAY AND SAND WITH ICE OR SOTHER PRIMARY FEATURES

GLACIAL LAKE BASIN: THERMOKARST TYPE POORLY FORMED SAND AND SILT WITH OR STRONGLY PLASTIC SILTY CLAY WITH UP TO 5 FT OF PEAT AND ORGANIC SILT PRIMARY FEATURES DOMINANT TO 20 FT OF PEAT

BEDROCK MORAINE KNOB AND KETTLE MORAINE COMPOSITE HILLS WITH SILT SAND AND GRAVEL

TERRACE UP TO 15 FT

ERRATICS ADDRESSING THE RANDOM SILT SAND GRAVEL ALONG

ESTUARIAL TIDAL LAKE ZONE

LAKE SYSTEM

ABOVE GLACIAL LAKE SHORELINES

SILTY SOIL

RAPID LITTOR SILT SAND GRAVEL

DISTURBED SURFACE

WELL WATER CHANNELS VARIABLE AND TO 10 M

OLD AND RECENTLY OVER BUILT

MORAINE VARIABLE WITH

FT OF LOOSE GRAVELLY SAND SILT ABLATION FILL OVER LOOSE

MOSTLY GENERALLY LESS THAN 10 FT ELUVIAL SILTY LAD SILT SE DEPOSITS OVER ARE CLAY

SHALLOW STONY BUT GENERALLY MANY OFF SURFACE NOTE ALSO, AT DIFFERENT TERRAIN TYPES TO DETERMINE STRAT GRAPHY

BIOPHYSICAL EFFECTS BOTH PROGRESSIVE

DEPOSITIONAL ON SILT AND OTHER ON A DISCONTINUOUS SUR FACE LAKE BASIN

LOOSE OR FILL ON A DISCONTINUOUS SUR FACE (E) ON ORGANIC SILT SILTY SAND WATER ALL WITH OR NO

PEBBLES & NEW ONLY AND SOME ICE

DISTURBED ROLL ALLUVIAL COMPLEX

TEAR 3 TO 10 FT OF PEAT

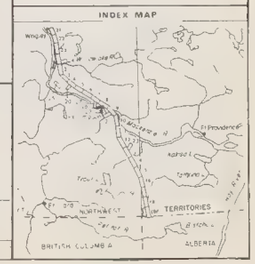
SEMI EXTENSIVE 3 TO 10 FT OF PEAT

PEAT

VERY BOGGY ALL

LESS PATTERNED ON A BEDROCK COMMON 3 TO 10

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION

2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS

3 MINIMUM DEPTH OF COVER = 2.5 FEET

4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

AREA

ROLL NO

PHOTO NO

REVISION

CENEPAL

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 5 10 Miles

DATE

SCALE

DRAWN BY

CHECKED BY

APPROVED BY

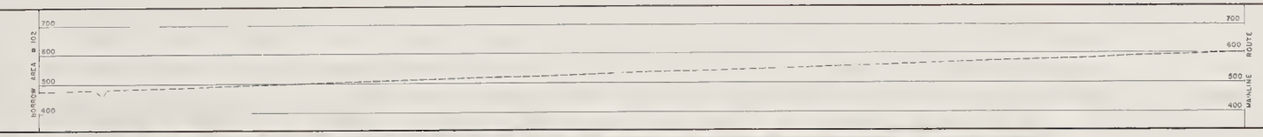
TITLE ALIGNMENT SHEET FOR BORROW AREA #FS 12 & #FS 13

DRAWING/PLAN No. 0500-26

DRILL HOLE DATA

PROFILE

PIPELINE ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CAMP NAME & NO.

BORROW AREA # 102

MP 7.8

MP 0.0

MP 660.2

DESIGN DATA

THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel
L - Low plasticity
S - Sand
M - Silt
cbl/bl - cobble(s)
C - Clay

O - Organic
H - High plasticity
Pt - Peat
P - Poorly graded
bldr - Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%
s - some 20 to 35%
l - little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Brk - brick
c - course
cvr - cover
Cr - Cross
Lrsd - leased
lyrd - layered
Mo - Moss
org - organic
veg - vegetation

TERRAIN MAPPING AND TERRAIN SENSITIVITY LEGEND
FOR
GREAT SLAVE PLAIN TYPOGRAPHIC DIVISION
(INCLUDES NO LAKES PLAIN & WOODS)
& LOWLAND RIVER TERRAIN ALBERTA BORDER

AA ALLUVIAL FAN DEPOSITS POORLY SORTED SILT SAND GRAVEL

AAP LACUSTRINE MEANDER PLAIN ICE RICH ORGANIC SILT AND FINE SAND TOPSTRATUM GENERALLY LESS THAN 5FT THICK OVER DISCONTINUOUS LARGE SAND AND OR GRAVEL OVER TILL

AB RIVERIDGE TERRAIN ROLLING AND NEARLY STEEP MOUNTAINS OPEN

CAF COARSE SORTING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL

DL DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS

E DELTA COARSE AND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL SILT

E ESKER RIDGE MAINLY COMPLETELY STRATIFIED SAND AND OR GRAVEL WITH MINOR SILT INCLUSIONS

FFF FLUVIOGLACIAL MOSTLY THIN ICE RICH SILTY TOPSTRATUM OVER SILT EQUAL SAND AND GRAVEL WITH COBBLES ASSOCIATED WITH LARGER RIVERS AND RIVERS

G GLACIAL LAKE BASIN BETTER DRAINED TYPE GENERALLY DISTINCTLY ICE RICH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY AND SAND WITH FEW OR NO THERMOKARST FEATURES

GB GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED SAND AND ICE RICH WITH UP TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER

HM HIGHLY MORAINE KNOB AND KETTLE MORAINE COMPOSED OF TILL WITH SILT SAND AND GRAVEL INCLUSIONS

M MORAINE UP TO 15FT SILT OVER DISCONTINUOUS THIN SAND AND OR GRAVEL ON DISCONTINUOUS TERRACES ADJACENT TO MOUNTAINS WITH SOME EXCESS ICE IN LATERAL TERRACES MORE SANDY AND GRAVELLY WITH CONTAINERS

M ULTRAMAFIC AND OR DUTRAMICTA PLAIN TABULAR ICE RICH GRAVEL SAND AND OR SAND WITH SOME SILT

MR DOE AND KNOLL MORAINE INCLUDING AND OR FLOODED GRAVELLY MORAINE COMPOSED OF TILLS NO 1 AND 3

T TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH SILT

AL ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS

B BADLAND DRAINAGE PATTERN ICE RICH SILTY SOILS

FL DRAINAGE FOLLOWS NARROW SUBLINEAR RIDGES OF SILT SAND GRAVEL AND ABLATION TILL

OR ORGANIC WATER AND FLOODED SURFACE COMPLEX LESS THAN 10FT OF SILT

MT MOUNTAIN PLANE VARIABLE FINE TO COARSE MATERIAL

OD OLD AND RECENT SLIDE FAILURES SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY

T SANDDUNES MAINLY FINE TO MEDIUM SAND

TD THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT

MW MARGINAL WOODED FEATURE MAINLY KETTLE SANDY TO GRAVELLY MARGIN LATER OVER TILL OR LACUSTRINE DEPOSITS

AB ABLATION TILL OF LOOSE GRAVELLY SAND SILT ABLATION TILL OVER CONSOLIDATED

CT GENERALLY DISCONTINUOUS THIN GENERALLY LESS THAN 10FT FLUVIOGLACIAL SAND GRAVEL TILL SOME SILTY LACUSTRINE DEPOSITS OVER CONSOLIDATED BEDROCK

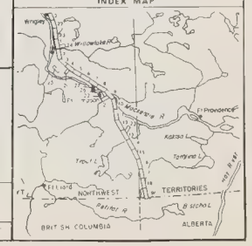
SH SHALLOW STOTS FT BUT GENERALLY LESS THAN 10FT SURFACE GRAVELLY SAND ASSOCIATED WITH TERRAIN TYPES TO SYSTEM NO STRATIGRAPHY

SP SPOLIED BOGS ALSO CALLED PEAT PLATEAUS 3 TO 15FT OF PEAT

P SAPPATERNED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15FT OF PEAT

S STRINGBOGS HORIZONTAL TO PATTERNED LAKE BOG FEN COMPLEX 3 TO 15FT AND EXCEPTIONALLY UP TO 15FT OF PEAT

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
1-7-70	48,144

NO	DATE	REVISION	APP.
	APR 3/1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 10 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SURV. ENGINEER	

TITLE
ALIGNMENT SHEET FOR ACCESS ROAD TO BORROW AREA #102

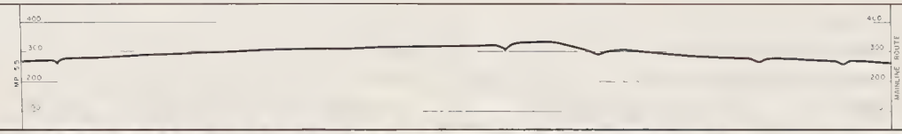
DRAWING/PLAN No 0500 - 27
SHEET 1 OF 1
REV. No

DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD - - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHANGE

DESIGN DATA

MAT'L LINE

MP 5.5

MAINLINE

SEE DRWG 0200-07

MP 0

THIS SHEET

UTM GRID ZONE B

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
Cbl cobbles — Bldr Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — f trace 10 to 20%
s some 20 to 35% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock — G Grass — Mt Moss
c coarse — Lmd laminated — org organic
cov cover — Byd layered — veg vegetation
f fine — m medium — wd wood

TERRAIN TYPING AND TERRAIN IDENTITY
MACKENZIE DELTA TO NORTH SCREEK AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 3 Z3)

AFP ACTIVE FLOOD PLAIN SAND AND GRAVEL ON EXPOSED BARS WHICH REPEATEDLY [illegible]

AWP [illegible]

BR BEDROCK TERRAIN BEDROCK OUTCROPS OR HAVING SOILS WITH [illegible]

CA [illegible]

CHAL PEBBLES (S 3 3x3 c2 2x3 b3 3x6)

DL DELTA CYPS SAND PLAIN ICE RICH SILT TOPSTRATUM OVER STRATIFIED [illegible]

E ESKER SAND OR GRAVEL HIGH SHALL NARROW A SAMPLE FOUNDS WHICH SILT [illegible]

FFP FLOOD PLAIN ICE RICH SILTY TOPSTRATUM OVER SAND AND GRAVEL BELOW THE NATURAL FLOOD PLAIN OF CHANNELS OF THE MACKENZIE RIVER (S 2x3 3x3 3x3 3x6)

G 1 GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH SILT TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY OCCASIONALLY WITH A TRACE OF SAND AND PEBBLES (S 2x3 3x4 c2x3 3x6)

G 2,3 GLACIAL LAKE BASIN THERMOKARST TYPE ICE RICH WELL TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND/OR STAGNANT WATER IN CLOSED THERMOKARST DEPRESSIONS (S 3 4 u2 f6)

HM HUMMOCKY MORAINE LARGE HUMMOCKS AND SHORT RIDGES COMPOSED MOSTLY OF TILL IN SOME SAND AND OR SILT PEAT OVERLIES SHALLOW POINTED SILTY CLAY SEDIMENTS IN CLOSED KETTLEHOLE DEPRESSIONS [illegible]

HT HILLY TERRAIN SILT LAYERED TERRAIN SUBPLANAR WITH UNDERLAYING [illegible] AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS (S 2 2x3 u2 2x3 f6 2x3)

K KAMES COMPLEX LY STRATIFIED SAND AND/OR GRAVEL MINOR TILL AND BOULDERS (S 1 2 u1 3)

KT KAME TERRACE POORLY EXPRESSED TERRACES COMPOSED OF SIMILAR [illegible]

[illegible] AN LARGER FLAT BOTTOMED KETTLEHOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND MARGAN CLAY SILT AND FINE SAND BEDS COMMONLY 2 TO 7 FT THICK OVER TILL (S 3 2x3 [illegible]

[illegible] FINE SAND AND PEAT PARTLY ESTUARINE RECENT DELTAIC AND FLOOD PLAIN [illegible]

OF OUTWASH PLAINS AND OUTWASH DELTAS FAIRLY WELL SORTED SAND AND/OR GRAVEL (S 1 2 u1 2x3 3)

[illegible]

MT MORAINE & TILL DISSECTED DRAINAGE SUBDIVIDED ICE RICH SILT AND CLAY (S 1 2x3 u1 2x3 f2 3)

RD BEADED DRAINAGE PATTERN ICE RICH SILTY SOILS (S 2x3 3x4 u1 f4)

[illegible] DRAINAGE FORMS INCLUDING FLUTING AND GLACIAL GROOVES WITH LINEAR RIDGES (S 2x3 3 u2 3)

[illegible] ERODING VALLEY SLIDES AND ESCARPMENT SLOPES MIXED CLAY FILL BOULDERS AND OR BEDROCK (S u2 3x4)

[illegible] ICE WEDGE POLYGONS USUALLY IN ICE RICH SILT (S 2x3 4 u2 4)

[illegible] KETTLES IN COARSE GLACIOFLUVIAL DEPOSITS MOSS AND THERMO [illegible]

[illegible] MELTWATER CHANNEL USUALLY WET AND WITH PEAT OVER SILT (S 3 4 u2 f6)

[illegible] OLD SLIDE FEATURES GENERALLY DEEPER AND LARGER THAN MT [illegible] (S u2 f6)

[illegible] ROCKY SAND AND GRAVEL IN EXPOSURES NEAR THE SURFACE COMMONLY [illegible]

S ROCK SPECKLED WITH WHITE FOG WEADOWS UP TO 15 FT OF PEAT IN PEAT PLATEAUS BUT GENERALLY 5 TO 10 FT DEEP (S 3 4 u2 f6)

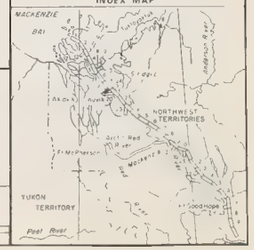
SB STAP NO BOG OR PATTERNED FEN GENERALLY 3 TO 12 FT OF PEAT GENERALLY [illegible]

[illegible] MIXED BOG AND FEN PEATS OR UNPATTERNED PEAT MOST GLACIAL POINTED DEPRESSIONS PEAT IS COMMONLY 2 TO 7 FT DEEP BUT OCCASIONALLY MAY REACH 15 FT LOCALLY (S 3 4 u2 f6)

[illegible] SLOPE WASH DEPOSITS AND ASSOCIATED SHEET WASH ON RIDGE TOPSTRATUM OF ICE RICH POORLY SORTED SILTY CLAY AND SILTY SAND LAYERS IN THE SOME GRAVEL SIDES AND THIN ORGANIC LAYERS GENERALLY LESS THAN 1 FT THICK BUT MAY REACH 15 FT LOCALLY [illegible]

WT WAVE MODIFIED TILL MAINLY A THIN SANDY TO GRAVELLY WASHED LAYER [illegible]

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3 MINIMUM DEPTH OF COVER = 2.5 FEET
4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 6.625" O.D. x 0.156" W.T. GR. 42
STANDARD WALL 6.625" O.D. x 0.280" W.T. GR. 42

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21511	120, 121, 122

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

REV.	DATE	REVISION	APP'D
1	APR 8 1975	GENERAL	[illegible]

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 0.5 10 Miles

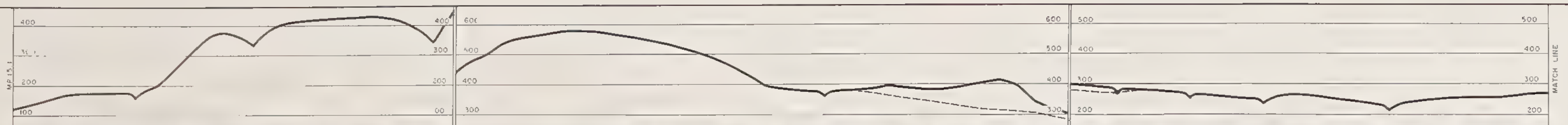
DATE 1 MAR 1975
SCALE 1 to 2000
DRAWN BY [illegible]
CHECKED BY [illegible]
APPROVED BY [illegible]
SUPERSEDES NEW

ALIGNMENT SHEET FOR GAS SERVICING TO INUVIK

DRAWING/PLAN No. 0200-10
SHT 1 OF 2
FILE No.

DRILL HOLE DATA

PROFILE — PIPELINE / ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES: INUVIK METER AND REGULATOR STATION — OFF ROW ACCESS — OFF ROW ACCESS — MATCH LINE

CONSTRUCTION CHAINAGE: MP 15 — MP 9.4 — MP 7.9 — MP 5.5

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 8

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O - Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50%	l. - little 10 to 20%
s. some 20 to 35%	t. - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk - bedrock	G - Grass	Ms - Moss
c - course	Lnsd - lensed	org - organic
cvr - cover	lyrd layered	veg - vegetation
f - fine	m - medium	vvd - varved

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER	6.625" O.D. x 0.156" W.T. GR. 42
STANDARD WALL	6.625" O.D. x 0.280" W.T. GR. 42

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 21511	198, 199, 200 210, 211, 212

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
1	1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 0.5 1.0 Miles

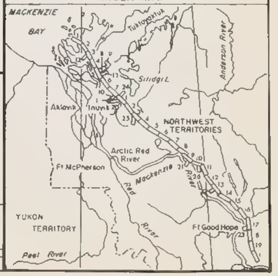
DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GAS SERVICING TO INUVIK

DRAWING/PLAN No. SHEET 2 OF 2 0200 - 11

FILE No.

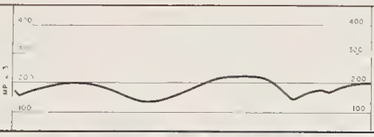
INDEX MAP

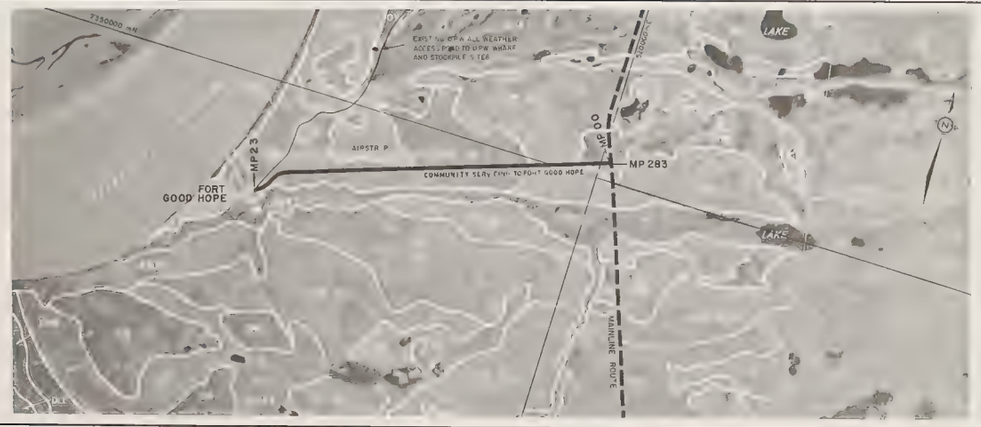


DRILL HOLE DATA

PROFILE

PIPELINE ——
ACCESS ROAD - - -





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONTROL POINT CHAINAGE (or Km)

DESIGN DATA

MP 23	EXCAVATOR & MEASURING STATION
MP 00	COMMUNITY SERVICING TO FORT GOOD HOPE ALIGNMENT SHEET DWG. 0300-17
MP 283	

FOOTAGE THIS SHEET

UTM GRID ZONE 9

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
Cb Cobble — Bldr Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50% — l - little 10 to 20%
s - some 20 to 35% — t - trace 1 to 10%

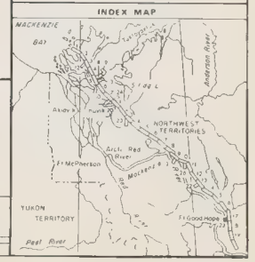
MISCELLANEOUS ABBREVIATIONS

Bdk bedrock — Gs Grass — Ms Moss
c coarse — Lnd land — org organic
cov cover — lyrd layered — veg vegetation
f fine — m medium — vrd varied

*TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
ANDERSON PLAIN PHYSIOGRAPHIC DIVISION
MOFFS CREEK AREA TO GIBSON PASS

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 3 3 u2 3 8 3 4)
AFF ACTIVE FLOOD PLAIN SAND AND GRAVEL ON EXPANDED BARS IN HIGH ENERGY STEEP GRADIENT STREAMS AND SAND OR SILT IN BARS ON LOW ENERGY LONG GRADIENT STREAMS (S 3 3 u2)
AMP ALLUVIAL MEANDER PLAIN ICE RICH STRATIFIED CLAY SILT AND SAND OVERLAIN BY MEANDERING STREAM DEPOSITS OF GRAY SAND AND GRAVEL OVERLAIN BY OXIDIZED ALLUVIAL SILT AND CLAY (S 3 3 u2 2 8 3 4)
BR BEDROCK TERRAIN BEDROCK OUTCROPS OF VARYING SIZE WITH THIN GENERALLY LESS THAN 5 FT (1 5 M) SILTY COLLUVIUM OVER BEDROCK ON STEEPLY SLOPING BEDROCK ESCARPMENTS NORTH OF NORMAN WELLS AND OCCASIONAL BEDROCK RIDGES BETWEEN THE PEEL RIVER AND THE YUKON/NWT BORDER (R 1 2u3 u1 2u3 8 1 3u2)
CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC AND INORGANIC SILTY AND SANDY DEPOSITS OBTAIN A NO SOME CLAY AND OCCASIONAL PEBBLES FREQUENTLY OVERLAIN BY PEAT OR ORGANIC SILT (E TRACE FINE SAND PLAIN ICE RICH SILT TOPSTRATUM OVER STRATIFIED SILTY SAND AND SILTY WITH SOME CLAY AND PEBBLES (S 2u3 u2u3 8 2u4)
[illegible] (S 2 3 u2 3 8 3 4)
[illegible] SAND AND GRAVEL SOME BARK ON [illegible] (S 1 5 M 4)
[illegible] (S 1 2 u1 3)
[illegible] SAND AND GRAVEL ON [illegible] AVEL BELOW THE INACTIVE FLOOD PLAIN OF RELATIVELY HIGH ENERGY STREAM (S 1 2u3 u 2u3)
LKB GLACIAL LAKE BASIN BETTER DRAINED TYPE ICE RICH INFORM TO HIGH LP PLASTIC GLACIOLACUSTRINE SILTY CLAY OCCASIONALLY WITH A TRACE OF SAND AND PEBBLES (S 2u3 2u4 u2u3 3u4)
LKP GLACIAL LAKE BASIN THERMOKARST TYPE ICE RICH MEDIUM TO HIGHLY PLASTIC GLACIOLACUSTRINE SILTY CLAY WITH PEAT AND ORGANIC SILT OVERLAIN BY TEMPORARY STREAM DEPOSITS (S 2 3 u2 4)
MW MORAINE WITH MINOR LARGE KAMES AND OTHER DEPOSITS COMPOSED MOSTLY OF TILL WITH SOME SAND AND/OR SILT PEAT OVERLIES SHALLOW [illegible] (S 2 3 u2 3 8 2 4)
PT [illegible] SILT OVERLIE STRATIFIED FOUNDATION [illegible] (S 2 3 u2 3 8 2 4)
R RAMPS COMPLEXLY STRATIFIED SAND AND/OR GRAVEL MINOR TILL AND [illegible] (S 1 3 u2 3)
RT RAMP TERRA 2 POORLY EXPRESSED TERRACES OR MOSSED OVER POORLY SORTED SAND AND/OR GRAVEL WITH COBBLES VARIABLE DITCH WITH BOULDERS, TILL AND ICE LENSES (S 1 2 u 3)
LB LACUSTRINE BASIN POSSIBLY ALLUVIAL FLOODPLAIN DEPOSITS IN LARGE FLAT SILT SWEEPS KETTLE HOLES AND THERMOKARST DEPRESSIONS PEAT COVERED COMPOSED OF ORGANIC AND NORGANIC CLAY SILT AND FINE SAND (S 2u3 u2u3 3u4)
OW [illegible] (S 2u3 u2u3 3u4)
RW [illegible] (S 2 3 u2 3 8 2 4)
BD SAND DUNES ELONGATE FINE TO MEDIUM SAND RIDGES (S 1 2u3 3)
AS ABANDONED STRANDLINES (S 1 2 3)
AP AUTO FLOOD POND OCCURRENCES ON THE ACTIVE FLOODPLAIN (S 1 2)
BD BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOIL (S 2u3 3u4 u2 8 6)
CD DRUMLINOID FORMS INCLUDING FLUTING AND GLACIAL GROOVES WITH [illegible] (S 2u3 2 3u4 3)
ES ESKER AND VALLEY SIDES AND ESCARPMENT SLOPES MIXED CLAY TO BOULDERS (S 2 3 u2 3 8 2 4)
[illegible] (S 2 3 u2 3 8 2 3)
[illegible] (S 2 3 u2 3 8 2 3)
ML METWATER CHANNEL USUALLY WET AND WITH PEAT OVER SILT (S 2 3 u2 4)
MT MEETING TRIANGULATE LETTOUNT [illegible] (S 2 3 u2 4)
RC RUBBLE FEATURES GENERALLY DEEPER AND LARGER FAULTED THAN MT [illegible] (S 2 3)
CI [illegible] (S 2 3 u2 3 8 2 4)
RS ROUGH SPOILED WITH MARSHY MEADOWS UP TO 15 FT OF PEAT OVER A PLATEAU BUT [illegible] (S 2 3 u2 4)
SD [illegible] (S 2 3 u2 4)
PT [illegible] (S 2 3 u2 4)
[illegible] (S 2 3 u2 4)
[illegible] (S 2 3 u2 4)
SLOPE WASH DEPOSITS AND ASSOCIATED SHEET WASH DRAINAGE TOP [illegible] (S 2 3 u2 4)
[illegible] (S 2 3 u2 4)
[illegible] (S 2 3 u2 4)
[illegible] (S 2 3 u2 4)
[illegible] (S 2 3 u2 4)

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CRT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER	3.500" O.D. x 0.109" W.T. GR. 42
STANDARD WALL	3.500" O.D. x 0.216" W.T. GR. 42

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21588	154, 155, 156

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APP'D
1	APR 3 1979	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

0 0.5 1.0 Miles

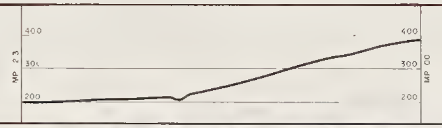
DATE	MARCH 3, 1975
SCALE	1:2200
DRAWN BY	
CHECKED BY	
APPROVED BY	
BJPV ENGINEER	

TITLE
ALIGNMENT SHEET FOR COMMUNITY SERVICING TO FORT GOOD HOPE

DRAWING NO. PLAN N 0300-23
SHEET 1 OF 1
FILE NO.

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G - Gravel	O - Organic
L - Low plasticity	H - High plasticity
S - Sand	Pt - Peat
M Silt	P - Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	L - little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms Moss
c course	Lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vvd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
EAST SIDE MACKENZIE PLAIN PHYSIOGRAPHIC DIVISION
(INCLUDING FRANKLIN MOUNTAINS DIVISION)
GIBSON RIDGE PASS TO WILLOWLAKE RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS

AFP ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STEEPER RIVERS

AMP ALLUVIAL MEANDER PLAIN ICE RICH ORGANIC SILT AND/FINE SAND TOPSTRATUM GENERALLY LESS THAN 5 FT THICK OVER DISCONTINUOUS SAND AND OR GRAVEL OVER TILL

BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES

CAF COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL

D? DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS

D? DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL SIZES

E ESKER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND/OR GRAVEL MINOR SILT INCLUSIONS

FFP FOSSIL FLOOD PLAIN MOSTLY THIN ICE RICH SILTY TOPSTRATUM OVER

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

NORMAN WELLS METER AND REGULATOR STATION

MAINLINE ROUTE SEE DRAWING 0400-05

CONSTRUCTION CHAINAGE

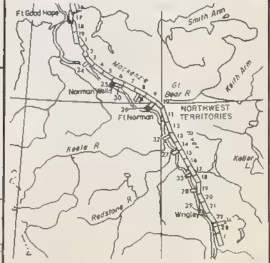
MP 2.3

MP 0.0

DESIGN DATA

FOOTAGE THIS SHEET

INDEX MAP



UTM GRID ZONE 10

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	CONSTRUCTION CAMP (TEMPORARY)
COMPRESSOR STATION	PROPOSED HELIPAD
COMPRESSOR STATION WITH CHILLING	PERMANENT ACCESS ROAD
METER STATION	TEMPORARY ACCESS ROAD
MATERIAL STOCKPILE SITE	PROPOSED HIGHWAY
PROPOSED PERMANENT WHARF	EXISTING HIGHWAY
PROPOSED TEMPORARY WHARF	DRILL HOLE LOCATION
EXISTING WHARF	BORROW AREA
CNT REPEATER STATION	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	3.500" O.D. x 0.109" W.T. GR. 42
STANDARD WALL	3.500" O.D. x 0.216" W.T. GR. 42

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 22387	175

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

Nº	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

DATE	MARCH 3, 1975
SCALE	1" to 2000'
DRAWN BY.	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR GAS SERVICING TO NORMAN WELLS

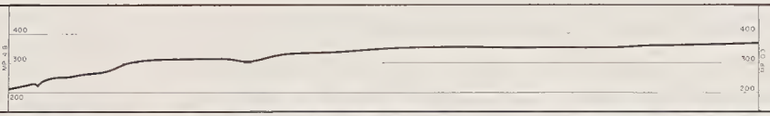
DRAWING/PLAN No. 0400-25

FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE ——— ACCESS ROAD ———



CONSTRUCTION DESIGN

DESIGN DATA	CONTRACT CHAINAGE	REFERENCE DRAWING & NOTES
	MP 4.8	FORT NORMAN METER AND REGULATOR STATION
	MP 0.0	MAINLINE ROUTE SEE DWG 0400-09

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cbl cobbles — bldrs Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a - and 35 to 50% — t. - little 10 to 20%
s. - some 20 to 35% — t. - trace 1 to 10%

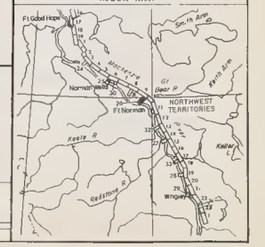
MISCELLANEOUS ABBREVIATIONS

Bdk - bedrock — G Grass — Ms Moss
c coarse — Lrsd - layered — org organic
cov cover — lyrd - layered — veg - vegetation
f fine — m medium — wvd - waved

TERRAIN MAPPING AND TERRAIN SENSITIVITY LEGEND FOR EAST FOOT MACKENZIE PLAIN TO DISCOVERY DIVISION INCLUDING FRANKLIN MOUNTAINS DIVISION GIBSON RIDGE PASS TO YELLOWLEAF RIVER AREA

AFD ALLUVIAL FAN DEPOSIT POORLY SORTED SILT, SAND, GRAVEL, SOME COBBLES AND BOULDERS (S 1 3 s1 2w3-6 3)
AFP ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS (S 1 2 s1 2w3-6 3)
AMP ALLUVIAL MEANDER PLAIN ICE RICH GLACIAL SILT AND SAND TOPSTRATUM GENERALLY LESS THAN 5 FT THICK OVER DISCONTINUOUS SAND AND GRAVEL (S 1 2 s1 2w3-6 3)
BR BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (1 2 3w2 2w3-6 3w4)
CSM COALESCING ALLUVIAL FANS ICE RICH POORLY SORTED ORGANIC SILT SAND AND GRAVEL (S 2 2w3 s2 2w3-6 3 2w7 3w4)
D1 DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS (S 2 2w3 s2 2w3-6 2w7 3w4)
D2 DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL (S 2 2w3 s2 2w3-6 2w7 3 3 4)
E EDGER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND GRAVEL MINOR SILT INCLUSIONS (S 2 2w3 s2 2w3-6 2w7 3w4)
FFP FOSSIL FLOOD PLAIN MOSTLY THIN ICE RICH SILTY TOPSTRATUM OVER ALLUVIAL SAND AND GRAVEL IN THE CORE ET ALGOC AFFORTH AND CABRA DEPRESSIONS (S 1 2 s1 2w3-6 3w7)
G, B1 GLACIAL ANTLERS BETTERDALE TYPE ENGLISH AND CE INTERSTRATIFIED WITH HIGHLY PLASTIC SILTY CLAY WITH DRAINAGE OR NO THERMOKARST FEATURES (S 2w3 3w4 s2w3 4 B 3 4)
G, B2 GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 3 4 s2 4)
HM HANCOCK MERIDIAN RIDGE MORAINE HANCOCK AND UNDAT BLUFF CLAY DISCOVERY DIVISION DRAINAGE DEPRESSIONS IN THE CORE ET ALGOC AFFORTH AND CABRA DEPRESSIONS (S 1 2 s1 2w3-6 3)
M MORAINE (S 1 2 s1 2w3-6 3)
MT MORAINE TERRACE (S 1 2 s1 2w3-6 2w7 3w4)
R RAMPS NEW DEPOSITS RAMPS DETACHED RAMP TERRACES COMPOSED OF COMPLEXLY STRATIFIED CE CONTACT SAND AND GRAVEL WITH VARIABLE OVERBURDEN DEPTH (S 2 2 s2 2)
RT RAMP TERRACE POORLY STRATIFIED TERRACE COMPOSED OF GRAVEL POORLY SORTED SAND AND GRAVEL WITH COBBLES VARIABLE OVERBURDEN (S 1 2 s1 2)
S SPILLWAY TERRACE POOLS AND PONDS ALLOGENIC EROSIONAL LANDFORMS LARGE FLAT BOULDER FIELDS AND THE WORK OF DEBRIS FLOWS PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC SILT SILT AND FINE SAND BEDS COMMONLY 2 TO 1 FT THICK OVER SILT
Cw CUTBANK WALL IRREGULAR ESTUARY AND TABULAR BLUFF COLLUVIUM AND ALLUVIAL FAN DEPOSITS (S 1 2w3 s1 2w3-6 3w7)
RW RIDGE AND KNOLL MORAINE POORLY SORTED ORGANIC NONORGANIC COMPOSITE (S 1 s2 2 s2w3 3 B 2w3 4)
T1 TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ANICE RICH MATRIX (S s1 3)
ESCARPMENT (S DEPENDS UPON MAP UNIT
AS ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINE VARIABLE FINE TO COARSE DEPOSITS (S 1w2 2w3 s2w3 3)
BD BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS (S 3 s3 B 4)
DR DRUMLINIZED AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF SILT OVER BEDROCK (S 1w2 2w3 s2w3 3)
EVS ENDING VALLEY BANKS LOCALLY CHANNELED BY SURFACE RUNOFF AND OVERWORKED BY STREAM EROSION VARIABLE WATER CONTENT (S 2 3 s2 3)
MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE WATER BED (S 2w3 s2w3 4 3w4)
GS1 OLD AND RECENT SLOPE FAILURES (S 2 s2 3 s3 4 3w4)
A NOOK AND TALUS GLACIER ALONG THE WESTERN FRONT OF THE NORTHWARDLY MERGING INDEFINITE BOULDERS (S 1 s1 3)
SD SAND DUNES MAINLY FINE TO MEDIUM SAND (S 2 3)
Ts TANNOES SILTSTONE BEDROCK (S 1 s1)
Tf TAIRNACARPT FOSSIL PATTERNED TARNS (S 2 s2 3 s3 4 3w4)
St STAGNANT WATER AND OR PEAT (S 2 s2 3 s3 4 3w4)
GP GENERALLY DISCONTINUOUS THIN ICE RICH GENERALLY LESS THAN 10 FT FOSSIL ALLUVIAL FAN SILT SAND GRAVEL DEPOSITS OVER SHALLOW BEDROCK (S s2 2w3 s2w3 3 2w7 3w4)
Sm SHALLOW 5 TO 15 FT BUT GENERALLY LESS THAN 10 FT SURFICIAL VENEER ALTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE SENSITIVITY AT A 5 HIGH RISK OF (S DEPENDS ON TERRAIN WITH SUPERIMPOSED EFFECTS BOTH EROSIONAL HUMMOCKS OVER SILT MAINLY AND DEPOSITIONAL LOCALLY WITH DEPOSITS WITH ICE RICH ORGANIC SILT OVER GRAVEL LATERITIC SILTY CLAYEY SILTY SAND WITH PEBBLES FINE SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEBBLES FINE TO COARSE AND COARSER ON LEES (S s2 3w4 B 3w2 3w4)
BS SPECKLED ROCK FIELDS CALLED PEAT PLATEAUS 3 TO 12 FT OF PEAT (S 2 3 s3 4)
P1 UNPATTERNED PEATLAND IN DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 3 s3 4)

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
COMPRESSOR STATION WITH CHILLING
METER STATION
MATERIAL STOCKPILE SITE
PROPOSED PERMANENT WHARF
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
CONSTRUCTION CAMP (TEMPORARY)
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
PROPOSED HIGHWAY
EXISTING HIGHWAY
DRILL HOLE LOCATION
BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER 3.500" O.D. x 0.109" W.T. GR. 42
STANDARD WALL 3.500" O.D. x 0.216" W.T. GR. 42

AERIAL PHOTOGRAPHS

ROLL NO. A 21526 — PHOTO NO. 104, 105

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 0.5 1.0 Miles

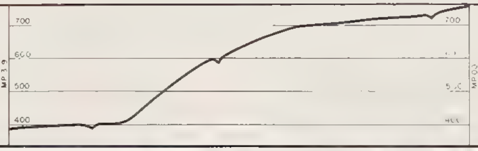
DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GAS SERVICING TO FORT NORMAN AND TEMPORARY ACCESS ROAD TO WHARF AND STOCKPILE SITES

DRAWING/PLAN No. 0400-26 — SHEET 1 OF 1 — FILE No.

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

WRIGLEY METER AND REGULATOR STATION

MAINLINE ROUTE SEE DRAWING 0400-2-

CONSTRUCTION CHAINAGE (miles)

MP 3.9

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O - Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

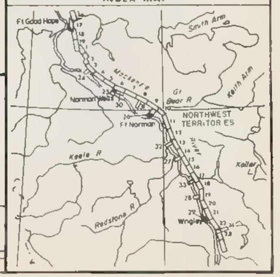
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	G Grass	Ms - Moss
c course	Lmd lensed	org - organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vvd varved

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	
COMPRESSOR STATION		PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING		PERMANENT ACCESS ROAD	
METER STATION		TEMPORARY ACCESS ROAD	
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF		EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	3.500" O.D. x 0.109" W.T. GR 42
STANDARD WALL	3.500" O.D. x 0.216" W.T. GR 42

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A 22424	45

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

Nº	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

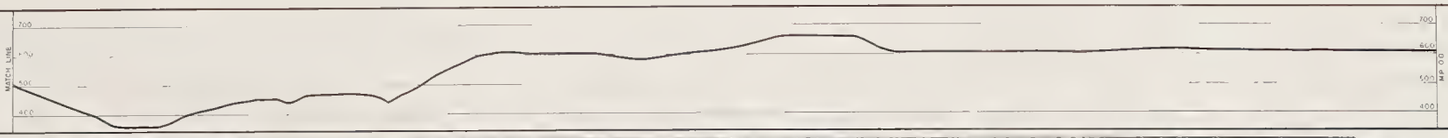
NORTHWEST TERRITORIES

0 0.5 1.0 Miles

DATE	MARCH 3, 1975	TITLE	ALIGNMENT SHEET FOR GAS SERVICING TO WRIGLEY
SCALE	1" TO 2000'		
DRAWN BY			
CHECKED BY			
APPROVED BY		DRAWING/PLAN No. SHEET 1 OF 1	0400-29
SUPV ENGINEER		FILE No.	

DRILL HOLE DATA

PIPELINE ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	MATCH LINE	END OF ACCESS ROAD	STOCKPILE SITE	GAS SERVICE LINE & ACCESS ROAD TO FORT SIMPSON SEE DWG 0500-109	
CONSTRUCTION CHAINAGE (METRES)	MP 0.2	MP 0.2	M 0.2	MP 0.0	
DESIGN DATA					

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cb(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

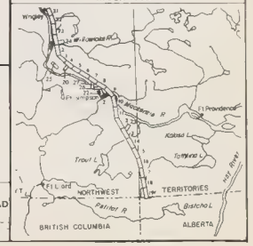
Bdrk bedrock	Gr Grass	Mo Moss
c coarse	f,mod fanned	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	svd saved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND

GREAT SLAVE PULP WOODS DRAINAGE DIVISION
NORTHERN ALLUVIAL AND PLATEAU SECTION
MACKENZIE RIVER TO FORT PLATEAU BORDER

A1 ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME OUTSIZE BOULDERS (S 1 2 3 4)
A1a ALLUVIAL BLANKET PLAIN DEPOSIT OF RIVER OR GLACIAL SILT AND FINE SAND FOR STRATIFIED GENERALLY LESS THAN 1 M OF OVERBURDEN OVER SAND AND OR GRAVEL OVER TILL (S 1 2 3 1 3 B 2 4)
B1 BEDROCK TERRAIN PRODUCES AND NEARBY STEEP MOUNTAINS (S 1 2a3 4 2a3 B 1 2a4)
A2 COARSE ALLUVIAL FANS DEPOSITS OF POORLY SORTED ORGANIC SILT SAND AND GRAVEL (S 2a3 4 2a3 B 2 3a4)
A3 DELTAIC FINE SAND PLAIN PRODUCE OF FINE SAND AND SILT FROM SOME SILTY (S 1 2 3 4)
E DELTAIC COARSE AND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL (S 1 2 3 4)
E1 ESKER RIDGE MAINLY COMPLEXLY STRATIFIED SAND AND OR GRAVEL WITH MINOR SILT INCLUSIONS (S 1 2 3 B)
E1a KOLL FLUTED PLAIN MOSTLY THIN ICE RICH SILTY TOPSTRATA OVER ALLUVIAL SAND AND GRAVEL WITH DOBBLES ASSOCIATED WITH LARGER RIVER RIVERS (S 1 2 3 B 2 3a3 3a3)
B GLACIAL LAKE BASIN BETTER DRAINED TYPE DENSELY SLOPING ICE RICH STRATIFIED SILT TO SILTY PLASTIC SILTY CLAY WITH SOME SAND (S 1 2 3 B 2 3a3 3a3)
C GLACIAL LAKE BASIN POORLY DRAINED TYPE POORLY DRAINED SAND AND ICE RICH MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 10 FT OF PEAT AND IN DEPRESSIONS THERMOKARST FEATURES CONTAINING STAGNANT WATER (S 1 2 3 B 2 3 4)
D MORAINE RIDGE AND KETTLE MORAINE COMPOSED OF TILL WITH MINOR SAND AND GRAVEL INCLUSIONS (S 1 2 3 2a3 2 2a3)
H1 HIGH TERRACE UP TO 15 FT SILT OVER 0 300 FT NODULE THIN SAND AND OR GRAVEL ON DEPOSITIONAL TERRACES ADJACENT TO THE MACKENZIE RIVER INCLUDES SOME ERODIONAL TERRACES MORE SANDY AND GRAVELLY ALONG OTHER RIVERS (S 1 2a3 4 2a3 2 3a4)
H2 OUTWASH AND DOUGHNAGHEDELTA PLAIN TABULAR BODIES OF GRAVEL AND OR SAND WITH SOME SILT (S 1 2 4 B 2)
H3 DEAD AND KOLL MORAINE ROLLING AND OR PROPER GROUND MORAINE COMPOSED OF TILL (S 1 2 3 2a3 2) (S 1a2 3 2a4 2)
H4 FALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ADVICE RICH SILT MATRIX (S 1)
H5 SLUMPED SLOPES (S 1 2 3 4 B 2)
H6 ABANDONED STRAND (S 1 2 3 4 B 2)
H7 FINE TO COARSE DEPOSITS (S 2 3 4 B 2)
H8 BEADED DRAINAGE PATTERN ICE RICH SILTY SOIL (S 2 3 4 B 2)
H9 ESKER FILL RIDGE NARROW SUBUNDAR RIDGES OF SILT SAND GRAVEL AND BLOCKS (S 1 2 3 4)
H10 AND FLUTED SURFACES COMMONLY LESS THAN 15 FT OF TILL (S 1a2 3 B 2a3 3)
H11 HANGING LOCALLY DRAINAGE LEDGES SURFACE RUNOFF AND BY STREAM EROSION UNDERCUT WATER ALL (S 2a4 3a4 3a4)
H12 WEST WATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNEL SINUOUS VALLEY LINES TO COARSE MATERIALS (S 3 4 2 2a3 2a3)
H13 OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY SANDY OVER SILTY CLAY (S 1 2 3 2a3 1 2a3)
H14 SAND DUNES MAINLY FINE TO MED UNSAND (S 1 2 3)
H15 THERMOKARST DEVELOPMENT LARGE THAN BASIN AND PONDS WITH ICE MANY WATER AND OR PEAT (S 1 2 3 2a3 3a4)
H16 WELL MOD FIED TILL MAINLY FINE SAND TO GRAVELLY BASIS OVER FLUVIO LACUSTRINE DEPOSITS (S 1 2 3 4)
H17 1 10 FT OF GOOD GRAVELLY SANDS LY ABLATION TILL (S 1 2 3 4)
H18 GENERALLY DISJOINT NODULE THIN VENEER LESS THAN 10 FT GLACIAL OR FLUVIAL TILL SOME SILTY LACUSTRIAN DEPOSITS OVER BEDROCK (S 1 2 3 4 B 2a3)
H19 THIN LOW 3 TO 15 FT BUT GENERALLY LESS THAN 10 FT SILTY CLAY VENEER NOTE ASSOCIATED APPARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY (S 1 2 3 4)
H20 DIGITATE EFFECTS BOTH ERODIONAL AND PERIODICALLY PRESENT AND LATEST GRAVELLY SAND DEPOSITS ON FRAY OF A GOOD (S 1 2 3 4)
H21 RIDGE LAKE FOR 100 1 3 FT CONSISTING OF ICE RICH ORGANIC AND WATER PLANTS WITH OR WITHOUT PEBBLES FROM DRIFT AND DAMPER (S 1 2 3 4)
I SPECKLED BOGS A SO CALLED PEAT PLATEAUS 3 TO 27 FT OF PEAT (S 2 3 4 B 4)
I1 UNPATTERNED FLAT LAND NO DEPRESSIONS OFTEN EXTENSIVE 3 TO 15 FT OF PEAT (S 2 3 4 B 4)
I2 SPAWL BOGS HAS GRIDLED PATTERNED OR RIBBED FEN DOMINOLS 3 TO 10 FT AND EXCEPTIONALLY UP TO 15 FT OF PEAT (S 2 3 4 B 4)

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		CONSTRUCTION CAMP (TEMPORARY)	C
COMPRESSOR STATION	C	PROPOSED HELIPAD	
COMPRESSOR STATION WITH CHILLING	C	PERMANENT ACCESS ROAD	A
METER STATION	M	TEMPORARY ACCESS ROAD	A
MATERIAL STOCKPILE SITE		PROPOSED HIGHWAY	
PROPOSED PERMANENT WHARF	W	EXISTING HIGHWAY	
PROPOSED TEMPORARY WHARF		DRILL HOLE LOCATION	
EXISTING WHARF		BORROW AREA	
CNT REPEATER STATION			

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTE

THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS

- MINIMUM DEPTH OF COVER = 2 5 FEET
- TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	4 500 O D x 0 109 W T GR 42
STANDARD WALL	4 500 O D x 0 237 W T GR 42

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 21526	167, 168

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
	APR 30	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

DATE	MARCH 3 1975
SCALE	1 to 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

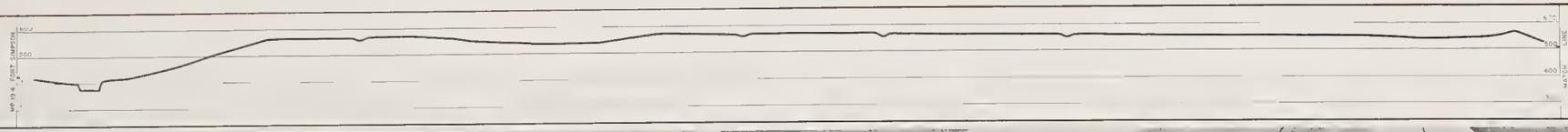
TITLE
ALIGNMENT SHEET FOR GAS SERVICE AND ACCESS ROAD TO FORT SIMPSON

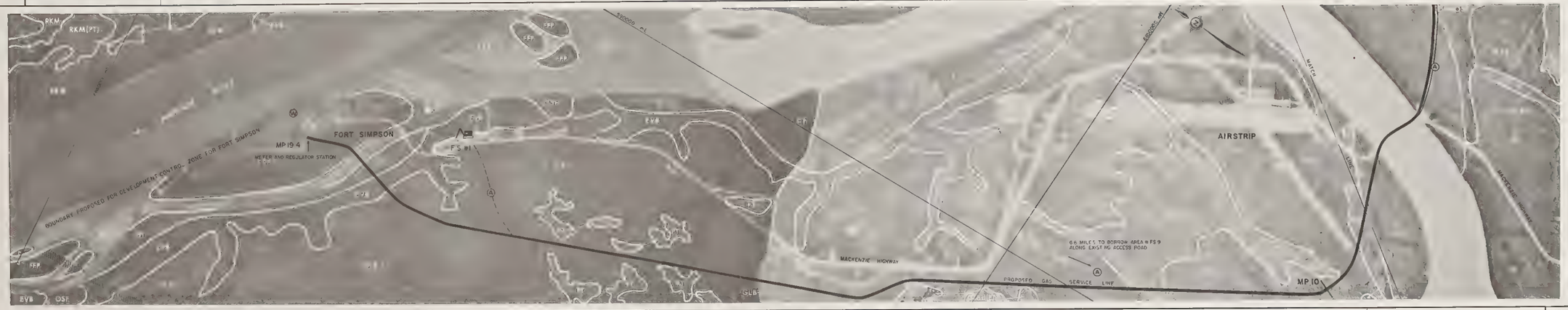
DRAWING/PLAN No 0500-21
SHEET 1 OF 2
FILE No

DRILL HOLE DATA

PROFILE

PIPELINE ——— ACCESS ROAD - - - -





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES		FORT SIMPSON METER AND REGULATOR STATION	OFF R.O.W. ACCESS ROAD TO BORROW AREA FS 9	MATCH LINE	
DESIGN DATA	CONSTRUCTION STATIONING (miles)	MP 19.4	MP 17.3	MP 9.2	

FOOTAGE THIS SHEET

UTM GRID ZONE 10

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — L Low plasticity — S Sand — M Silt — cbl(l) cobble(s) — C Clay — O Organic — H High plasticity — Pt Peat — P Poorly graded — bldr Boulders — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — s some 20 to 35% — l little 10 to 20% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — c course — cov cover — f fine — Gs Grass — Lrd layered — m medium — Ms Moss — org organic — veg vegetation — vrd varved

TERRAIN MAP AND TERRAIN SENSITIVITY LEGEND

GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION
INCLUDING LIARD PLATEAU (PORT WRIGHT AREA ONLY)

AFD	ALLUVIAL FAN DEPOSIT POORLY SORTED SILT SAND GRAVEL SOME COBBLES	
AFT	ALLUVIAL FAN TOP SILT SAND	
EAF	COALESCING ALLUVIAL FAN SAND AND GRAVEL	
DI	DELTA LAKE BASIN PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS	
DIU	DELTA (CITADEL) AND PLAIN FINE TO COARSE SAND WITH LARGE GRAVEL	
F	[illegible] SEDIMENTS COMPLETELY STRATIFIED SANDY AND GRAVELLY	
GLB1	GLACIAL LAKE BASIN BETTER DRAINED TYPE GENERALLY SOMEWHAT ICE RICH STRATIFIED WELL DRAINED PLASTIC SILTY CLAY AND SANDY SILT FEW OR NO THERMOKARST FEATURES	
GLB2	GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED SAND AND SILT OR MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FT OF PEAT AND WIDESPREAD THERMOKARST FEATURES OFTEN WITH STAGNANT WATER	
MR	MORAINAL KAME AND KETTLE MORAINE COMPOSED OF TILL WITH SAND AND GRAVEL INCLUSIONS	
OW	OUTWASH AND OUTWASH SHEET PLAIN TABULAR BODIES OF GRAVEL AND OR SAND WITH SOME SILT	
RM	ROCK AND KAME MORAINE ROLLING AND OR HUMMOCKY GROUND MORAINE COMPOSED OF TILL	
TS	TALUS SLOPES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH [illegible]	
EE	EXCAVATION DEPENDS UPON TERRAIN TYPE ABANDONED DEPRESSIONS FORMER LACUSTRINE LAKE SHORELINES LAKE BELT FINE TO COARSE DEPOSITS	
GT	GROUND MORAINE AND ABLATION TILL SILT AND SAND GRAVEL	
GR	GROUND MORAINE FLUTED SURFACES COMMONLY LESS THAN 15 FT OF TILL OVER BEDROCK	
MC	MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS	
OSF	OLD AND RECENT SLOPE FAILURES SLIDES AND SLUMPS COMMONLY SAND OVER SILTY CLAY	
SD	SAND DUNES MAINLY FINE TO MEDIUM SAND	
TK	THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT	
[illegible]	OVER TILL OR LACUSTRINE DEPOSITS	
AB	2 TO 5 FT OF LOOSE GRAVELLY SANDY SILT ABLATION TILL OVER TILL	
GF	GENERALLY GEOMORPHIC FAN (GENERALLY LESS THAN 15 FT) GLACIAL OR FLUVIAL TILL SOME SILTY LACUSTRINE DEPOSITS OVER IRREGULAR [illegible]	
SL	SEDIMENTAL DEGLACIAL CONSIST OF SILT FLUVIAL LAKE (UP TO 15 FT) CONSISTING OF ICE [illegible]	
BS	SPECKLED BOGS ALSO CALLED PEAT PLATEAUS 2 TO 15 FT OF PEAT	
*	BOGS ALSO CALLED PATTERNED FENS PRESENT COMMONLY 5 TO 15 FT AND EXCEPT OVALLY UP TO 15 FT OF PEAT	

INDEX MAP

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- COMPRESSOR STATION WITH CHILLING
- METER STATION
- MATERIAL STOCKPILE SITE
- PROPOSED PERMANENT WHARF
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- CONSTRUCTION CAMP (TEMPORARY)
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- PROPOSED HIGHWAY
- EXISTING HIGHWAY
- DRILL HOLE LOCATION
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	4.500" O.D. x 0.109 W.T. GR 42
STANDARD WALL	4.500 O.D. x 0.237 W.T. GR 42

AERIAL PHOTOGRAPHS

ROLL NO.	PHOTO NO
A 22427	142,143
A 21526	168,169

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO.	DATE	REVISION	APP'D
	APR 7 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

0 0.5 10 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	[illegible]
SURV. ENGINEER	

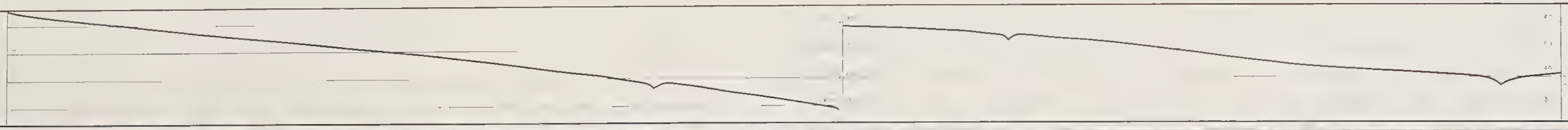
TITLE

ALIGNMENT SHEET FOR GAS SERVICE AND ACCESS ROAD TO FORT SIMPSON

DRAWING/PLAN No. 0500-22
SHEET 2 OF 2
FILE No

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD



REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

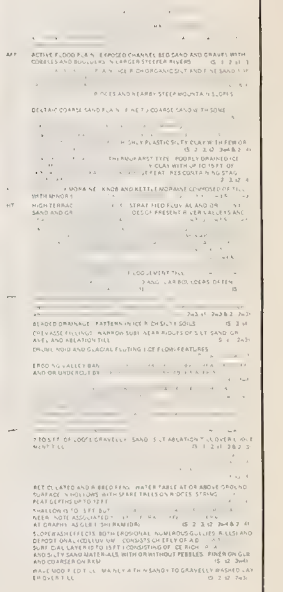
G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cblls Cobbles	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Ms Moss
c coarse	Lnsd lensed	
cvr cover	lyrd layered	
f fine	m medium	



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

C-16 (MAINLINE ROUTE MP 178) DWG 0500 16

BORN W 4R1 A (PHOTO INTERPRETATION)

MATCH LINE

MP 0 0

MP 9 8

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 11

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	▬	PROPOSED HELIPAD	
COMPRESSOR STATION	Ⓒ	PERMANENT ACCESS ROAD	—Ⓐ—
MATERIAL STOCKPILE SITE	◉	TEMPORARY ACCESS ROAD	--Ⓐ--
PROPOSED TEMPORARY WHARF	△	EXISTING HIGHWAY	——
EXISTING WHARF	▲	CONSTRUCTION CAMP (TEMPORARY)	Ⓒ
CNT REPEATER STATION		BORROW AREA	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2 5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN.

CARRIER	10 750 O D x 0 219" W.T GR 52
STANDARD WALL	10 750 O D x 0 365 W T GR 52

ROLL NO	PHOTO NO
A 22432	137, 138, 139
A 21551	137, 138, 139, 140, 141, 142

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

1	APR 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0 5 1 0 Miles

DATE	MARCH 3, 1975	TITLE ALIGNMENT SHEET FOR *GREAT SLAVE PLAIN* PHYSIOGRAPHIC DIVISION
SCALE	1 TO 2000'	
DRAWN BY		
CHECKED BY		
APPROVED BY		
ENGINEER		DRAWING/PLAN No. 0600-01
		SHEET 1 OF 34 FILE No.

INDEX MAP

DRILL HOLE DATA

PROFILE

PIPELINE
ACCESS ROAD

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gr Grass	Ms Moss
c coarse	Lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vvd varved

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION	Ⓒ	PERMANENT ACCESS ROAD	—Ⓐ—
MATERIAL STOCKPILE SITE	●	TEMPORARY ACCESS ROAD	---Ⓐ---
PROPOSED TEMPORARY WHARF	△	EXISTING HIGHWAY	——
EXISTING WHARF	▲	CONSTRUCTION CAMP (TEMPORARY)	Ⓒ
CNT REPEATER STATION		BORROW AREA	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

REFERENCE DRAWINGS & MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION

2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS

MINIMUM DEPTH OF COVER = 2.5 FEET

3 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	10.750" O.D. x 0.219 W.T. GR 52
STANDARD WALL	10.750" O.D. x 0.365 W.T. GR 52

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A2 55	77 78 79
	80,8 ,8

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO.	DATE	REVISION	APP'D
	APR 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 MILES

DATE MARCH 3, 1975

CHECKED BY

APPROVED BY

SUPV ENGINEER

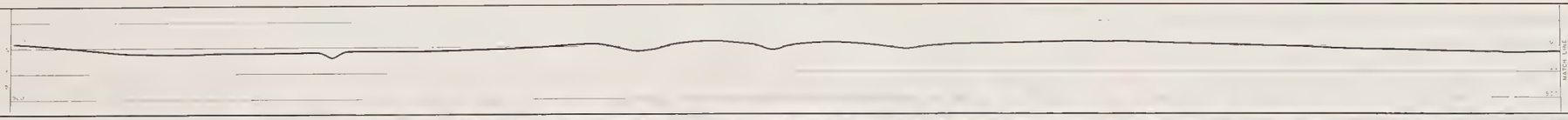
TITLE ALIGNMENT SHEET FOR *GREAT SLAVE PLAIN* PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No.

SHEET 2 OF 34 0600-02

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

PHOTO INTERPRETATION

MATCH LINE

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
Cobbles	Boulders
C Clay	W Well graded

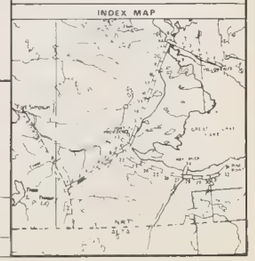
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	little 10 to 20%
some 20 to 35%	trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Mb Moss
cover	Lmat limonit	org organic
cov cover	lyrd layered	veg vegetation
fine	m medium	veg vegetation

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	PROPOSED HELIPAD
COMPRESSOR STATION	PERMANENT ACCESS ROAD
MATERIAL STOCKPILE SITE	TEMPORARY ACCESS ROAD
PROPOSED TEMPORARY WHARF	EXISTING HIGHWAY
EXISTING WHARF	CONSTRUCTION CAMP (TEMPORARY)
CNT REPEATER STATION	BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	16.750" O.D. x 0.219" W.T. GR 52
STANDARD WALL	16.750" O.D. x 0.365" W.T GR. 52

AERIAL PHOTOGRAPHS

ROLL NO.	PHOTO NO.
A 21551	77,78,79
A 21530	130,131,132,133,134

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	230 PSI

No	DATE	REVISION	APP'D
1	1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 2 MILES

DATE	MARCH 1 1975
SCALE	1" TO 2000'
DRAWN BY	J. Gilbert
CHECKED BY	
APPROVED BY	

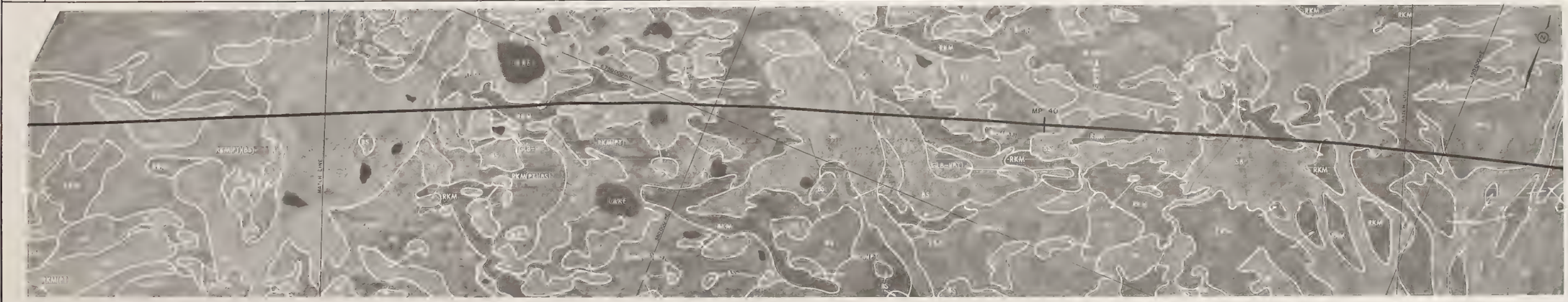
TITLE ALIGNMENT SHEET FOR
GREAT SLAVE PLAIN
PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No
SHEET 3 OF 34 0600-03

DRILL HOLE DATA

PIPELINE
ACCESS ROAD

MATCH LINE



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
b Cobbles — b Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

x and 35 to 50% — i - little 10 to 20%
s some 20 to 35% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk Bedrock — Gr Grass — Mx Mixed
c covered — Lrd layered — org organic
cvr cover — lrd layered — veg vegetation
f fine — m medium — wvd varved

ACTIVE FLOOD PLAIN EXPOSED CHANNEL BLOCKS AND COBBLES AND BOULDERS IN LARGER STEEPER RIVERS

RECENT ALLUVIUM WELL SORTED NON ORGANIC SILT AND FINE SAND IN A STRATUM GENERALLY LESS THAN 5 FT THICK OVER DISCONTINUOUS SAND AND OR GRAVEL OVER TILL

REDUCED TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SIDES

DTA DELTA COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL

E ESKER RIDGES SMALL SAND AND GRAVEL RIDGES

GLB 1 GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLE TO MODERATELY ROLLING NON ORGANIC PLANT LIVE CLAYS THE MOST THERMOKARST FEATURES

GLB 2 GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED OFTEN MEDIUM TO HIGH PLASTIC SILTY CLAY WITH UP TO 1 FT OF PEAT

MW MAINT WATER

MM MORAINE MORAINE RIDGE AND KETTLE MORAINE DISTINCTIVE TILL WITH MINOR SAND AND GRAVEL MOUNDS

DRAINED MORAINE UNDULATING TO ROLLING MORAINE STILL DRAINED EXPOSE OF LODGEMENT TILL

COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITHIN OR FROM THE MORAINE

EXPOSED LODGEMENT TILL

MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS SAND GRAVEL ETC CLEARED WATER AGE

SD SAND DUNES MAINLY FINE TO MEDIUM SAND

THERMOKARST DEVELOPMENT LARGE THAW BASINS OFTEN STANDING WATER ON PEAT

TRENCH OF OLD FLOOD MARKINGS

STRATA OF COBBLE GRAVELLY SAND EXTENSIVE LOOSE GRAVEL TILL

THICK ICE RICH ALLUVIAL DEPOSITS PLATEAUS 2 TO 3 FEET OF PEAT

EXTENSIVE PEAT AND NO DEFINITE DRAINAGE OFTEN EXTENSIVE PEAT

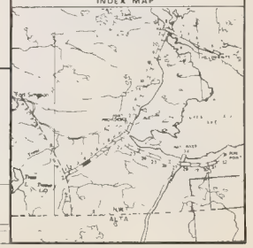
MODULATED RIDGE DEPOSITS WATER TABLE AT OR ABOVE GROUND SURFACE IN HOLLOWS WITH SPARSE TREED ON RIDGES DRAINED EARLY PEAT DEPTH UP TO 2 FT

SHALLOW IS TO 1 FT BUT GENERALLY LESS THAN 10 FT STILL DRAINED

SLOPE WASH EFFECTS BOTH EROSIONAL TO NUMEROUS GULLIES ALLUVIAL DEPOSITS ONAL COLLUVIUM CONSISTS OF FEW OF ALLUVIUM MUDDY SUBTIDAL LATER 3 TO 15 FT CONSISTING OF NON ORGANIC SILT AND SILTY SAND MATERIALS WITH OR WITHOUT PEBBLES FINER ON SLOPES AND COARSER ON RIDGE

MAX MODIFIED TILL MAINLY A THIN SANDY TO GRAVELLY MADE TILL ON LOWER TILL

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- MATERIAL STOCKPILE SITE
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- EXISTING HIGHWAY
- CONSTRUCTION CAMP (TEMPORARY)
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION

2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS

3 MINIMUM DEPTH OF COVER = 2.5 FEET

4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	10.750 O.D. x 0.219" W.T. GR. 52
STANDARD WALL	10.750" O.D. x 0.365 W.T. GR. 52

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 2530	32,33,34
	61,62,63,64

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

1975	1975	FINAL

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

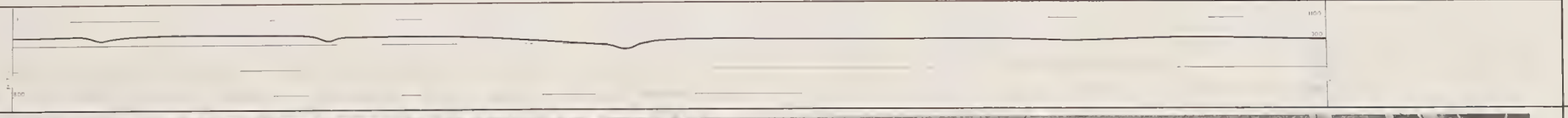
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

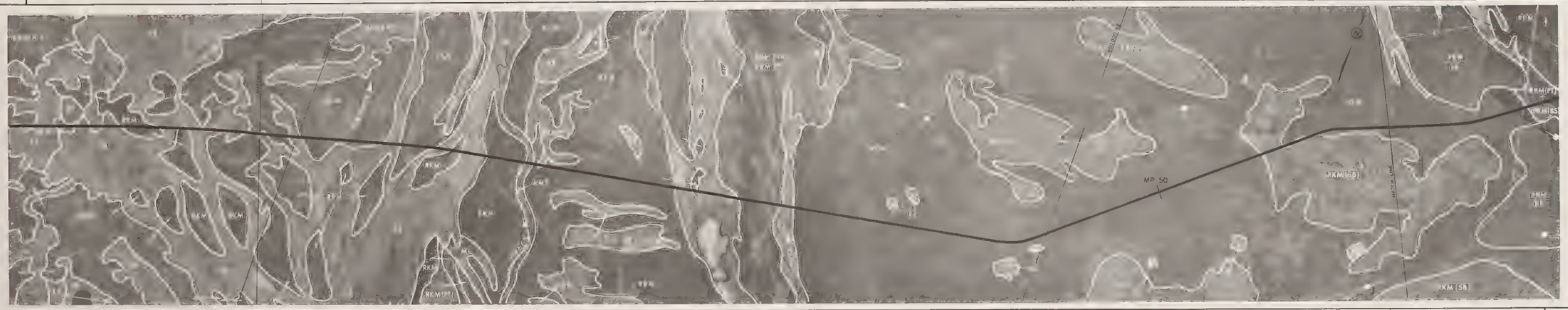
DRAWING PLAN NO. FILE NO.

SHEET 4 OF 34 0600-04

DRILL HOLE DATA

PROFILE — PIPELINE ——— ACCESS ROAD - - -





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHANGE (miles)

DESIGN DATA

HASTEN LINE

MP 49.0

FOOTAGE THIS SHEET

UTM GRID ZONE 11

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
C Cobbles — H High organics
S Sand — Pt Peat
M Silt — P Poorly graded
Cbl (>7" cobbles) — Bldrs Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — l little 10 to 20%
s some 20 to 35% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — Gr Grass — Ms Moss
c coarse — L mod. layered — org organic
cvr cover — lyrd layered — veg vegetation
f fine — m medium — vrd varved

TERRAIN LEGEND & DESIGN ASSUMPTIONS
REFER GENERALLY TO SIGURDSON CO LTD

FALLAHEE BASIS BEFFER AND STYRE CENTRAL LOW AND MIDDLE PLAIN CONTINENTAL CLIMATE

MP MORAINE LANDFORMS AND RETREATING MORAINE DEVELOPED ON GLACIOLACUSTRINE SEDIMENTS

INDEX MAP

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- MATERIAL STOCKPILE SITE
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- EXISTING HIGHWAY
- CONSTRUCTION CAMP (TEMPORARY)
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOCATION STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	10.750 O.D. x 0.219" W.T.	GR 52
STANDARD WALL	10.750" O.D. x 0.365 W.T.	GR 52

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 21930	58,59,60
	C1162 63

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE
MAXIMUM OPERATING PRESSURE

NO	DATE	REVISION	APP'D
1	1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 — 0.5 — 1.0 MILES

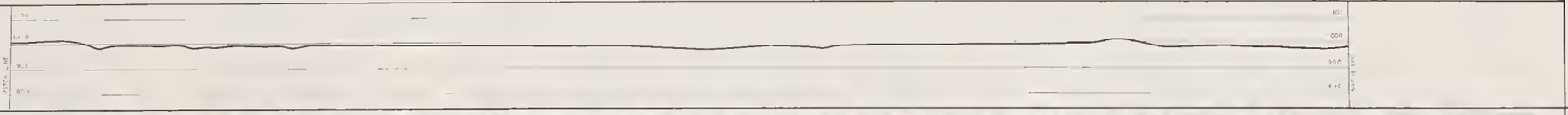
DATE	MARCH 3 1975
SCALE	1:2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO
SHEET 5 OF 54 0600—05

DRILL HOLE DATA

PIPELINE & PIPELINE ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING

DESIGN DATA

MATCH LINE

MF 52.0

MATCH LINE

MF 52.3

UTM GRID ZONE

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cBrld cobble(s)	bldrs Boulders
C Clay	W Well graded

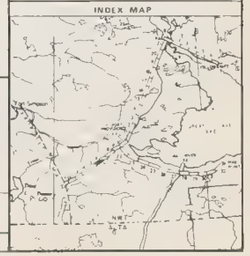
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l - little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Mx Mixe
c coarse	Lrnd layered	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vrd varved

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	PROPOSED HELIPAD
COMPRESSOR STATION	PERMANENT ACCESS ROAD
MATERIAL STOCKPILE SITE	TEMPORARY ACCESS ROAD
PROPOSED TEMPORARY WHARF	EXISTING HIGHWAY
EXISTING WHARF	CONSTRUCTION CAMP (TEMPORARY)
CNT REPEATER STATION	BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MAP NOTES

GENERAL NOTE

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
   MINIMUM DEPTH OF COVER = 2 5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	10.750" O.D. x 0.219" W.T. GR 52
STANDARD WALL	10.750" O.D. x 0.365" W.T. GR 52

AERIAL PHOTO DATA

ROLL NO.	PHOTO NO.
A 21530	58, 59
A 21549	136, 137, 138, 139, 140

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO

DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO.	DATE	BY	REVISION	APP.
1	APR 2 1975		GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 1 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

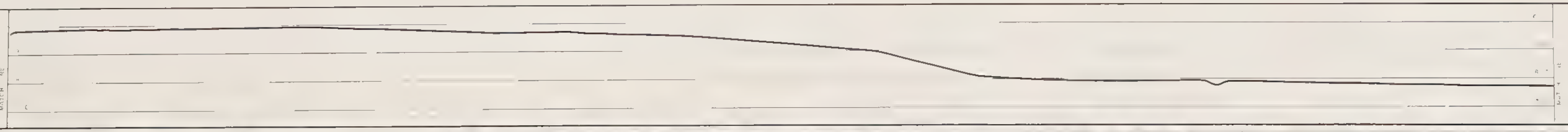
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING NO/PLAN NO 0600-06

SHEET 6 OF 34

DRILL HOLE DATA

PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

ACCESS ROAD TO BORROW AREA (PHOTO INTERPRETATION)

ACCESS ROAD FROM CONSTRUCTION CAMP TO MACKENZIE HIGHWAY

MATCH LINE

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 1

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

c coarse	lmnd laminated
cvr cover	lyrd layered

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION	(C)	PERMANENT ACCESS ROAD	(A)
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	(A)
PROPOSED TEMPORARY WHARF		EXISTING HIGHWAY	
EXISTING WHARF		CONSTRUCTION CAMP (TEMPORARY)	(C)
CNT REPEATER STATION		BORROW AREA	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	10.750 O.D. x 0.219 W.T. GR 52
STANDARD WALL	10.750 O.D. x 0.365 W.T. GR 52

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 21530	3,4,5,6,7,8
A 21549	125,126,127,128

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO	DATE	REVISION
	APR 3 1975	GENERAL

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 — 1.0 Miles

DATE
SCALE
DRAWN BY
CHECKED BY
APPROVED BY

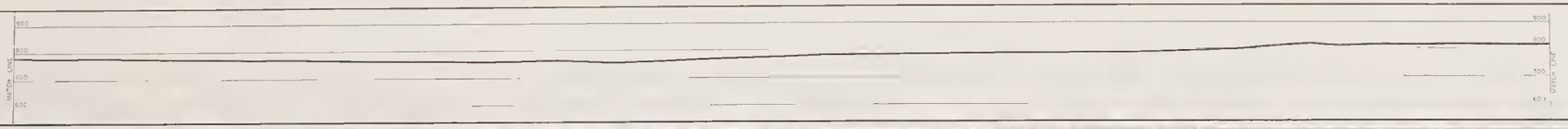
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

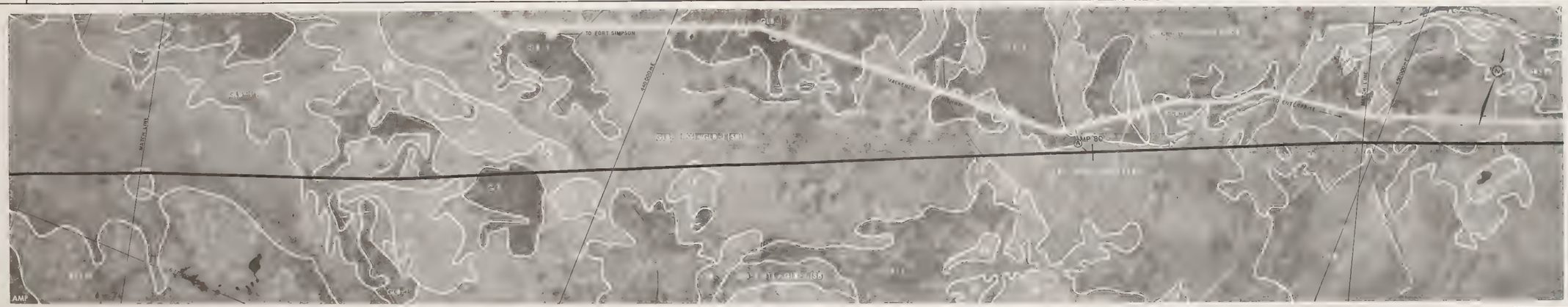
DRAWING/PLAN No 0600-07

DRILL HOLE DATA

PROFILE

PIPELINE
ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

TEMPORARY ROADS

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 11

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cMbl cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	t little 10 to 20%
a some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock	Gr Group	Ms Mass
c centre	Lmd limed	org organic
cov cover	lyrd layered	veg vegetation
f fine	m medium	vrd varved

TERRAIN TYPES & SYMBOLS USED ON THE
GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

AFP ALLUVIAL FAN DEPOSITS POORLY SORTED SILT SAND GRAVEL STONES COBBLES AND BOULDERS (S 1 3 U 2 3 Ab)

APP ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVELS WITH GOOD LEVEL AND BUILDING SITES ADJACENT RIVERS (S 1 3 U 2 3 Ab)
ALL MEADOW PLAIN DEEP ORGANIC CLAYS AND FINE SANDS IN STRATUM GENERALLY LESS THAN 6FT THICK OVER DISSECTING FINE SAND AND OR GRAVEL OVER TILL (S 2 3 U 3 Ab)

BSU BALTIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL (S 1 3 U 2 3 Ab)

E ESKER DEES SMALL SAND AND GRAVEL RIDGES (S 1 3 U 3 Ab)

GLB GLACIAL LAKE BASINS BETTER DRAINED TYPE GENTLY SLOPING ICE RICH STRATIFIED MEDIUM TO HEAVY CLAYS OR SILTY CLAYS WITH HEAVY ICE RICH ORGANIC PEAT PEAT (S 2 3 U 3 Ab)

GLB 2 GLACIAL LAKE BASINS POORLY DRAINED TYPE POORLY DRAINED SILTY CLAYS OR SILTY SANDS PLASTIC STRATA WITH ICE RICH ORGANIC PEAT AND WIDESPREAD THAWING PERMAFROST PRESENCE OFTEN SEASONAL WATER (S 2 3 U 3 Ab)

MM MORAINE MORAINE AND RUTTLED MORAINE HAPHAZARDLY SORTED SILTS WITH MORE SAND AND GRAVEL KOLLUVIUM (S 1 3 U 3 Ab 3 Ab)

MT MORAINE TRACES DISTURBED STRATIFIED FLUVIAL AND FOLIOGENAL SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS (S 2 3 U 3 Ab 3 Ab)

LT LACUSTRINE BASIN POTGLACIAL MOSTLY LACUSTRINE DEPOSITS WHERE FLAT BOTTOMED KETTLE HOLES AND THERMOKARST DEPRESSIONS PRESENT OFTEN COVERED DEPOSITS OF ORGANIC AND INORGANIC COARSE SILT AND FINE SAND BEDS SEDIMENTS 2 TO 6 FEET TO OVERLIE TILL (S 2 3 U 3 Ab 3 Ab)

RMM RIDGE AND HILLY MORAINE SINGULAR SIGHTS UNIFORM FLAT AND GROUND MORAINE COMPOSED OF LODGEMENT TILL (S 1 3 U 3 Ab)

RS TALUS SLOPES COARSE GRAVEL AND ROCK FRAGMENTS OFTEN WITH ICE OR UNSET MATRIX (S 1 3 U)

TTT ESCARPMENT IS TERRACE LIKE TERRACE TYPE

AS ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES WAVE CUT NEED TO COARSER DEPOSITS (S 3 U 1 3 Ab 3 Ab)

BD BADLANDS DRAINAGE PATTERN IN DEPOSITS TO SILT (S 3 Ab)

LT LAKE BOTTOMS FLOODED MARGIN SILTS NEAR OUTSIDE OF LAKE SAND OR MUD AND MARLY ON TILL (S 1 3 U)

DR DRUMLINS AND GLACIAL FLUTING (SEE FORMS PLANS) (S 1 3 U 3 Ab)

ELB ESKER VALLEY BANKS LOCALLY CHANNELLED BY MELTWATER FLOW AND OVERLAIN BY STREAM DEPOSITS OR LARGE MATERIAL (S 1 3 U 3 Ab)

MC MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS WHERE EXPOSED COARSE MATERIALS (S 1 3 U 3 Ab)

SD SAND DUNES MAINLY FINE TO MEDIUM SAND (S 1 3 U 3)

TL THERMOKARST SELLEDEPRESSIONS LARGE THAN BASINS MAY HOLD WITH STAGNANT WATER AND PEAT (S 2 3 U)

TRENCH SEE FOR MARKINGS (S 1 3 U 3 Ab)

RB 2 TO 5 FEET OF LOOSE GRAVELLY SAND 5 FT ABLATION TILL OVER LYING (S 1 3 U 3 Ab)

RS SPOILED BOG ALSO CALLED PEAT PLATEAUS 2 TO 12 FT OF PEAT (S 2 3 U 3)

RP UNPATTERNED PEATLAND NO DEPRESSIONS OFTEN EXTENSIVE (S 2 3 U 3)

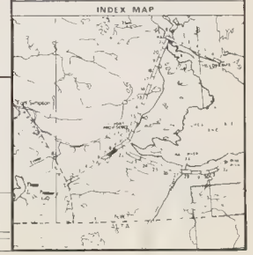
OR RETICULATED AND RIBBED FENS WATER TABLE AT OR ABOVE GROUND SURFACE IN HOLLOWS WITH SPARSE TREES ON RIDGES (SEE NOTE) RIPPED PEAT DEPTHS UP TO 12 FT (S 2 3 U 3)

SP SHALLOW 0 TO 15 FT BUT GENERALLY LESS THAN 10FT SUPP ONLY NEAR NOTE ASSOCIATED PARENT TERRAIN TYPES TO DATE (S 2 3 U 3)

SL SLOPEWASH EFFECTS BOTH PROGRESSIVE INVERSIONS AND SLOPE WASH DEPOSITS ON SLOPES OF ESKERS OR ALSO SLOPEWASH COLLUVIUM ON SLOPES 1 TO 3 FT COMPOSED VARIOUS FROM ORGANIC COLLUVIUM AND SILTY SAND WATERFALLS WITH OR WITHOUT PEBBLES FINER ON LIVE AND COARSER ON RAM (S 1 U 3 Ab)

MLS MODIFIED TILL MAINLY A THIN SANDY TO GRAVELLY MODIFIED LAYER OVER TILL (S 2 U 3 Ab)

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION	C	PERMANENT ACCESS ROAD	
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	A
PROPOSED TEMPORARY WHARF		EXISTING HIGHWAY	
EXISTING WHARF		CONSTRUCTION CAMP (TEMPORARY)	C
CNT REPEATER STATION		BORROW AREA	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS WATER AL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2 5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	10.750" O D x 0.219" W T GR. 52
STANDARD WALL	10.750 O D x 0.365" W T GR 52

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 21528	5,6,7
A 21549	226,227,228 229,230,231

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO	DATE	REVISION	APP'D
1	APRIL 15/75	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

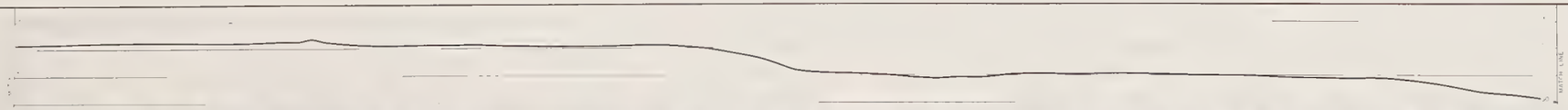
0 0.5 1.0 Miles

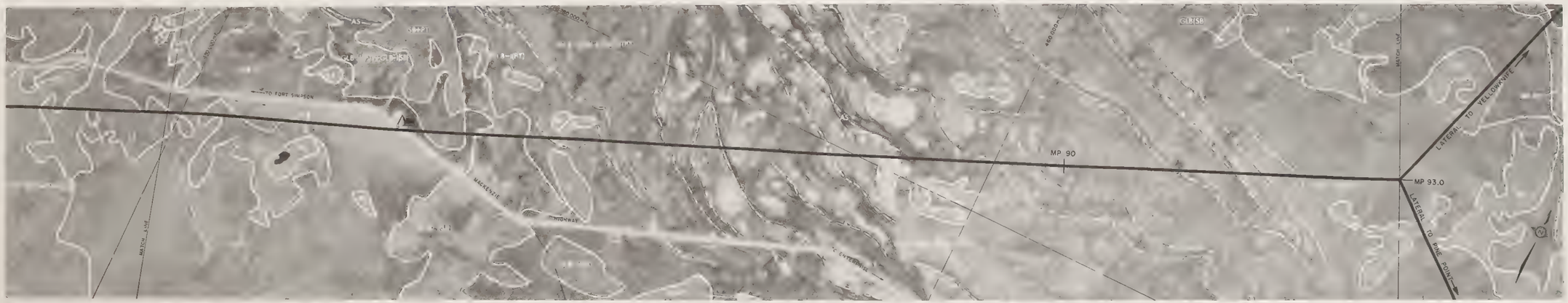
DATE	MARCH 3 1975	TITLE	ALIGNMENT SHEET FOR GREAT SLAVE PLAIN
SCALE	1" TO 2000		PHYSIOGRAPHIC DIVISION
DRAWN BY		DRAWING-PLAN No	
CHECKED BY		SHEET 8 OF 34	0600-08
APPROVED BY			
SUPV ENGINEER			

DRILL HOLE DATA

PROFILE

PIPELINE ——
ACCESS ROAD - - -





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

DESIGN DATA

MATCH LINE

FOOTAGE THIS SHEET

UTM GRID ZONE 1

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Gr. Grey	Ms. Moss
Lmd. limed	org. organic
lyrd. layered	veg. vegetation
m. medium	wvd. waved

TERRAIN TYPES & OTHER ASSETS

GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

ALLUVIAL FAN DEPOSITS POORLY SORTED SILT SAND GRAVEL SOMETIMES COBBLES AND BOULDERS (S 1 2 cl 2a 3)

ACTIVE FLOODPLAIN IMPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS IN LARGER STREAMS (S 1 2 cl 3)

RECENT ALLUVIAL PLAIN (SEE FLOODPLAIN) SILT AND FINE SAND TOP STRATUM GENERALLY LESS THAN 5 FEET THICK OVER DISCONTINUOUS SAND AND GRAVEL OVER TILL (S 2 3 cl 6a)

BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (R 1 cl)

DELTA COARSE SAND PLAIN FINER COARSE SAND WITH SOME GRAVEL (S 1 2 cl 2b 3 3)

ESKER RIDGES SMALL SAND AND GRAVEL RIDGES (S 2 3 cl 3)

[illegible] RIDGES BETTER GRADED TYPE GENERALLY SORTED (G

KAME TERRACE DISTRIBUTARY TYPE POORLY DRAINED DEPRESSIONS WITH PEAT OVERLAYING PLASTIC SILTY CLAY WITH UP TO 10 FT OF PEAT AND IS DISSECTED THROUGH ABSTRACTED CONTAINING STAGNANT WATER (S 2 3 cl 4)

KAMES AND KETTLE MORAINE COMPOSED OF TILL INTERSPERSED WITH SAND AND GRAVEL SEDIMENTS (S 1 2 cl 2a 3 2 2a 3)

GLACIFLUVIAL TERRACES DISTINCTLY DEFINED STRATA EQUIVALENT TO ALLUVIAL AND OR OUTWASH SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS (S 2 2a cl 2a 3 2 3a)

[illegible] BASIN POSSIBLE PONDED LACUSTRINE DEPOSITS IN LARGE BRIMFAT BOTTOMED KETTLE HOLES AND THE PARTIALLY DRAINED PEAT FILLED TO IMPOSED ORGANIC LAND SURFACE OVER SILT AND FINE SAND BELOW, COMMONLY 20 TO 25 FT THICK QUEBRADA (S 2 3 cl 3a 4a 3 4)

[illegible] MORAINE LOW RELIEF GRAVEL PEBBLE COBBLE SILT AND SAND MATERIALS COMPOSED OF GLACIAL TILL (S 1 2 cl 3 2 3 cl 3 APPROACHES OFTEN

SURFACES UPON TERRAIN TYPE

ABANDONED STRANDLINES FORMERLY ACTUAL LAKE SHORELINE VARIABLE NET COMPOSITIONS (S 2a 3 cl 2a 3 2 3a)

[illegible] PATTERN SEDIMENTS (S 1 3 cl)

[illegible] HARMONIZES WITH SILT SAND [illegible] AND RELATED TILL (S cl [illegible]

[illegible] FLOW FEATURES (S cl [illegible]

[illegible] VALLEYS BANKS LOCAL CHANNELLED BY SURFACE WATER [illegible]

MELTWATER CHANNELS AND BEDS [illegible] WATER CHANNELS WITH BELT OF TO COARSE WATER ALS (S 1 3 cl 2 2a 3)

SAND DUNES MAINLY FINE TO MEDIUM SAND (S 1 2 cl 3)

THERMOKARST DEVELOPMENT AREA THAWING ALSO AND PONDS IN STAGNANT WATER AND OR PEAT (S 2 3 cl)

TREND OF LIKELY FLOW WARK [illegible]

2 TO 3 FT OF LOOSE GRAVELLY SAND SILT ABLATION TILL OVER LOOSE [illegible]

SPECIALIZED BOGS IN LOW DALLED PEAT PLATEAUS 2 TO 12 FT OF PEAT (S 3 3 cl)

[illegible] PEAT AND MOSSES 2 NO OPEN EXTENSIVE TERRAIN [illegible]

RETICULATED AND RIBBED FENS WATER TABLE AT OR ABOVE GROUND SURFACE IN HOLLOWS WITH SHARP CREST OF RIDGES (SEE MOSS) [illegible] PEAT DEPTHS UP TO 12 FT (S 2 cl 3)

THALLOWS TO 10 FT BUT GENERALLY LESS THAN 10 FT LOW CIRCULATE WATER NOTE ROAD ATTS PARENT TERRAIN TYPES (S 1 2 cl [illegible] STRATIGRAPHY AS 2 3 OR RIM DRY (S 2 2 cl 3a 4 3 [illegible]

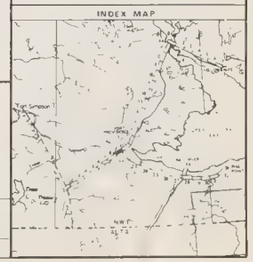
SLOPWASH EFFECTS BOTH FROM SHARP RIDGES AND PONDS GULLIES [illegible]

SURFICIAL LAYER 2 TO 10 FT COMPOSITE OF LEE FROM SHARP RIDGES (S [illegible]

SURFICIAL LAYER 2 TO 10 FT COMPOSITE OF LEE FROM SHARP RIDGES AND SILTY SAND MATERIALS WITH OR WITHOUT PEBBLES FINER ON OLD AND COARSER ON RIM (S cl 3a)

[illegible] TILL MAINLY ATTRIBUTABLE TO GRAVELLY WASHED LAYER

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	PROPOSED HELIPAD
COMPRESSOR STATION	PERMANENT ACCESS ROAD
MATERIAL STOCKPILE SITE	TEMPORARY ACCESS ROAD
PROPOSED TEMPORARY WHARF	EXISTING HIGHWAY
EXISTING WHARF	CONSTRUCTION CAMP (TEMPORARY)
CNT REPEATER STATION	BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	10.750 O.D. x 0.219 WT	GR 52
STANDARD WALL	10.750 O.D. x 0.365 WT	GR 52

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A 2549	230, 231
A 4254	2 3 4 A

OPERATING LICENCE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 210 PSI

NO	DATE	REVISION	APP'D
1	1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

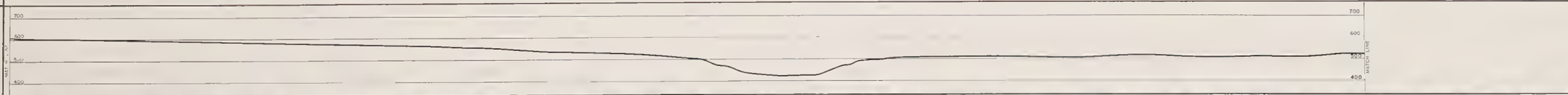
DATE	MARCH 1 1975
SCALE	1:20,000
CHECKED BY	
APPROVED BY	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING PLAN No.
SHEET 9 OF 54 0600-09

DRILL HOLE DATA

PROFILE — PIPELINE — ACCESS ROAD



CONSTRUCTION DESIGN

DESIGN DATA

REFERENCE DRAWING & No.	MATCH LINE BLOCK VALVE LOCATION
CONSTRUCTION STATIONING	MP 93.0

COMMUNITY SERVICE TO SEE DRAWING 0600-33

MATCH LINE

MP 104.9

FOOTAGE THIS SHEET

UTM GRID ZONE 11

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbbl Cobbles	bldr Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

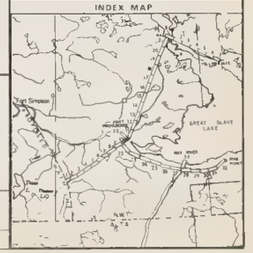
MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs. Grey	Mx Mixed
c stone	Lmd laminated	org organic
cr coarse	lyrd layered	veg vegetation
f fine	m medium	wd sorted

TERRAIN MAP
GREAT SLAVE PLAIN PHYSIOGRAPHIC MAP

AFD	ALLUVIAL FAN DEPOSITS POORLY SORTED SILT SAND GRAVEL BOULDERS AND BOULDERS
AFF	ACTIVE FLOODPLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH COBBLES AND BOULDERS (LARGER DEEPER RIVERS)
AMP	ALLUVIAL MEANDER PLAIN RICH ORGANIC SILT AND FINE SAND STRATUM USUALLY LESS THAN 8 FT THICK OVER DISCONTINUOUS SAND AND GRAVEL OVER TILL
BR	BEDROCK TERRAIN ROLLS AND HILLS (DEEPNESS VARIES)
BS	BEACHES (CAPE SAND PLAIN FINE TO COARSE SAND WITH GRAVEL
E	ESKER RIDGES SMALL SAND AND GRAVEL RIDGES
G, S	GLACIAL LAKE BASINS REFER GRAVELLY TYPE GENTLY SLOPING MODERATELY STRATIFIED MATERIAL FOR ONLY PARTS SILTY CLAY WITH FEW OR NO THE RANDOM STRATIFIED
G, S	GLACIAL LAKE BASINS THERMOKARST TYPE POORLY DRAINED FOR MEDIUM TO VERY PLASTIC SILTY CLAY WITH UP TO 15 FT FLAT AND WIDESPREAD THERMOKARST FEATURES OFTEN WITH GRAVEL NEAR WATER
MW	MUNDOCH NORMAN WADE AND KETTLE MORAINE COMPOSED OF TILL WITH MINOR SAND AND GRAVEL INCLUSIONS
MT	HIGH TERRACES SILT GRAVEL STRATIFIED TILL AND ON OTAKI SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS
LB	LACUSTRINE BASINS POTOLACK MONDELACHER NE DEMOS IN LARGER FLAT BOTTOMED KETTLE HOLES AND THERMOKARST BOWL ING PEAT COVERED COMPOSED OF ORGANIC AND INORGANIC CLAY SILT AND FINE SAND BEDS GENERALLY 2 TO 7 FT THICK OVER TILL
PM	MODE AND SAND INORGANIC UNDULATING TO UNDULATING
TTT	ESCARPMENT DEPENDS UPON TERRAIN TYPE
AD	ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE FINE TO COARSE DEPOSITS
BD	BEADED DRAINAGE PATTERN IN ICE RICH SILTY SOILS
EKB	PROGRESSIVE BREAKS LOCALLY CHANNEL BOWL HILLS RIVER AND OR LAKES BY STREAM EROSION HAPHAZARD WATER HOLES
MC	MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS SAND AND FINE TO COARSE MATERIALS
SD	SAND DUNES MAINLY FINE TO MEDIUM SAND
TL	THERMOKARST DEVELOPMENT LARGE THAW BASINS AND PONDS WITH STAGNANT WATER AND OR PEAT
[illegible]	TRENDS OF GLACIAL MAPPING AGE
RA	210 5 FT OF LOOSE GRAVELLY SAND SILT ABLATION TILL OVER LOOSE MEAT TILL
BS	SHOALED BASINS ALSO CALLED PEAT FILLED AS 370 FEET OF PEAT
PT	UNPATTERNED PEATLAND A DEPRESSION OFTEN EXTENDED 5 TO 7 FEET OF PEAT
SB	REVEGETATED AND RUBBLE FENS WATER TABLE AT OR ABOVE GROUND SURFACE IN HOLLOWS WITH SPARSE TREES ON RIDGES (STRUTED) EXPECT PEAT DEPTHS UP TO 12 FT
SH	SHALLOW (5 TO 15 FT BUT GENERALLY LESS THAN 8 FT) SILTY CLAY OVER ICE RICH ALLOCATED PARENT TILL PATTERNED GROUND ON AERIAL PHOTOGRAPHS REGULAR POLYGONS
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
RM	RIBBED MODIFIED TILL MAINLY A TH SANDY TO GRAVELLY RIBBED LAY OVER TILL

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION	C	PERMANENT ACCESS ROAD	
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	A
PROPOSED TEMPORARY WHARF		EXISTING HIGHWAY	
EXISTING WHARF		CONSTRUCTION CAMP (TEMPORARY)	C
CNT REPEATER STATION		BORROW AREA	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOCATION STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	8.625" O.D. x 0.188" W.T. GR. 46
STANDARD WALL	8.625" O.D. x 0.322" W.T. GR. 46

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21528	2,3,4, 46,47,48,49
A21530	196,197

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	(440 PSI)
MINIMUM TEST PRESSURE	(800 PSI)
MAXIMUM OPERATING PRESSURE	(250 PSI)

No.	DATE	REVISION	APP'D
1	APR 8 1976	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3 1975
SCALE	1" TO 2000'
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	[illegible]
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0600-10

SHEET 10 OF 34

FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE ——— ACCESS ROAD - - -

MATCH LINE

800
700
600
500

CONSTRUCTION DESIGN

REFERENCE DRAWING & SHEETS

CONTRACT CHAINAGE

MP 104.9

MP 1.5.2

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 11

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- MATERIAL STOCKPILE SITE
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- EXISTING HIGHWAY
- CONSTRUCTION CAMP (TEMPORARY)
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET.
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER	8.625" O.D. x 0.188" W.T. GR. 46
STANDARD WALL	8.625" O.D. x 0.322" W.T. GR. 46

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 21530	115, 116
A 21550	111, 112, 113, 114
	213, 214, 215

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO.	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO.	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 1, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0600-11

SHEET 11 OF 34

FILE No.

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

s sand 35 to 50%	l little 10 to 20%
g some 20 to 35%	t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs - Grass	Ms - Moss
c colluvial	L(ml) (ensed)	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vrd varved

TERRAIN MAPPING & DRAINAGE SURVEY FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

A ALLUVIAL FAN DEPOSITS POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (S 1 3 d 2 3x3)

AE ACTIVE FLOOD PLAIN EXPOSED CHANNEL SILT SAND AND GRAVEL WITH COBBLES AND BOULDERS (LARGER STREAMS RIVERS) (S 1 3 d)

AL ALLUVIAL MEANDER PLAIN SEE ON ORGANIC SILT AND FINE SAND IN STRATUM (GENERALLY LESS THAN 5 FT THICK OVER COARSE SAND SAND AND GRAVEL OVER TILL) (S 2 3 d 4)

B BEDROCK TERRAIN RIDGES AND NEARBY STEEP MOUNTAIN SLOPES (S 1 3 d)

D DELTA COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL (S 1 3 d 2 3 2)

DR DRUMLINS SMALL SAND AND GRAVEL RIDGES (S 1 2 d)

L LACUSTRINE BASIN BETTER DRAINED TYPE GENTLY SLOPING ICE RICH STRATIFIED MEDIUM TO HIGHLY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES (S 2 3 d 3x4 3 4)

LC LACUSTRINE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH MEDIUM TO HIGH PLASTIC SILTY CLAY WITH UP TO 1 5 FT THAW DEPRESSIONS (S 2 3 d 3x4 3 4)

LT LACUSTRINE BASIN DEGRADED THERMOKARST FEATURES EQUIVALENT TO LT (S 2 3 d 3x4 3 4)

M MORAINE HUMMOCKY TERRAIN AND KETTLE MORAINE COMPOSED OF TILL WITH NON SAND AND GRAVEL NODULES (S 1 3 d 3x3 3)

SG SAND AND GRAVEL BANDING OF PRESENT RIVER VALLEYS AND OLD RIVER VALLEYS (S 1 3 d 2 3 2)

SGT SAND AND GRAVEL WITH KETTLES AND THERMOKARST DEPRESSIONS

SLT SILT AND FINE SAND BEDS (S 2 3 d 3x4 3 4)

T GROUND MORAINE COMPOSED OF LODGEMENT TILL (S 1x2 3 d 2x3 2)

TC TALUS CONES COARSE GRAVEL AND ANGULAR BOULDERS OFTEN WITH ANGLE OF REPOSE MATERIALS (S 3)

TT ESCARPMENT & DISMEMBERED TERRAIN TYPES

ABANDONED STRANDLINES FORMER GLACIAL LAKE SHORELINES VARIABLE LACUSTRINE DEPOSITS (S 2x3 d 3x3 2 2x3)

W CREEK BED FLUVIAL DEPOSITS NARROW SUBURBAN RIDGES OF SILT SAND GRAVEL AND ALLUVIAL TILL (S 3 2x3)

WG DRUMLIN AND GLACIAL FLUTING ICE FLOW FEATURES

WV EROSIONAL VALLEY BANKS LOCALLY CHANNELLED BY SURFACE RUN OFF (S 1 3x3)

M MELTWATER CHANNELS AND ABANDONED MACKENZIE RIVER CHANNELS VARIABLE FINE TO COARSE MATERIALS (S 1 3 d 2 2x3)

SD SAND DUNES MAINLY FINE TO MEDIUM SAND (S 1 2 d 2)

TC THERMOKARST DEVELOPMENT LARGE THAW BOWLS AND MONOGENETIC TYPE

TRENCH OF ICE FLOW MARKINGS (S 1x2 3 d 2x3 2)

2 TO 5 FT OF LOOSE GRAVELLY SAND SILT ABLATION TILL OVER LODGEMENT TILL (S 1 3 d 2 3x2 2)

SPECKLED ROLLING HILLS CALLED PEAT PLATEAUS 3 TO 15 FT OF PEAT

A ATTENUED PEATLAND DEPRESSIONS OF SEVERAL FEET OF PEAT (S 3 4 d 4)

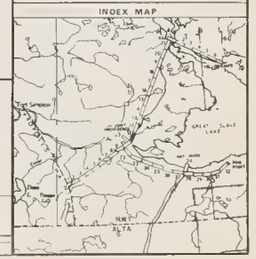
PERIODICALLY INUNDATED WATER TABLE AT OR ABOVE GROUND SURFACE IN HOLLOWS WITH SPARSE TREES ON RIDGES STRUNG EXPECT PEAT DEPTHS UP TO 5 FT (S 2 3 d 4)

SHALLOW 15 TO 15 FT BUT GENERALLY LESS THAN 10 FT SURFICIAL WATER NOTE ASSOCIATED PATTERN TYPES TO DISTINGUISH SUBTYPE AT GRAPH ACCORDING TO THE DRAINAGE (S 2 3 d 3x4 3 4)

SCOPROUS EFFECTS BOTH EROSIONAL INCLUDING GULLIES RILLS AND DEPOSITIONAL COLLUVIUM CONSISTS OF TALUS OF A DISCOLOR MUDDY SILT RIDGE LAYER 10 TO 15 FT DISCONTINUOUS OF ICE RICH ORGANIC SILT AND SILTY SAND MATERIALS IN THAW WITH OUT PEBBLES FINER ON SLOPE AND COARSER ON RIDGE (S 2 3x4)

WALL MODIFIED TILL MAINLY A THIN SAND TO GRAVELLY MADE TO LAY OF OLDER TILL (S 2 3 2x3)

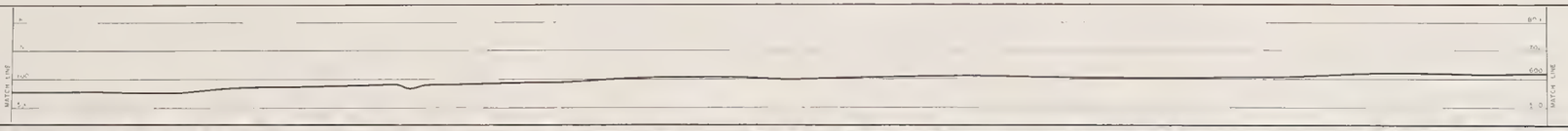
INDEX MAP



DRILL HOLE DATA

PIPELINE
ACCESS ROAD

MATCH LINE



MATCH LINE

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Lineal (linearly)
S Sand
M Silt
(B) or (C) Cobble or Cobbles
C Clay
O Organic
H High (organic)
P Peat
P Poorly graded
B or C Boulder or Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
E lineal
ex elev
f fine
Gr Grass
Lnd land
layd layered
m medium
Ms Moss
org organic
vtg vegetation
ved varved

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

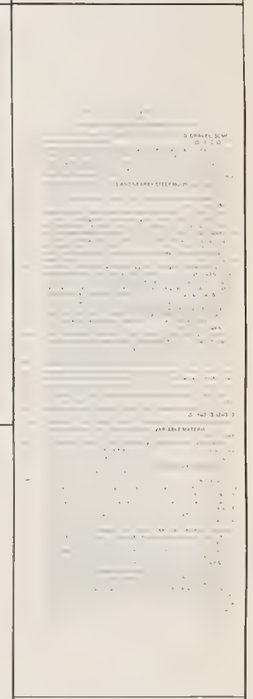
MATCH LINE

MP 119.2

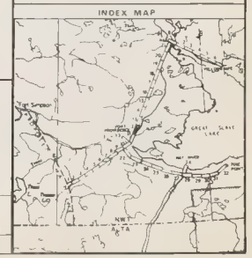
DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE



INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MAJOR LINES FROM MATRIX A

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3 MINIMUM DEPTH OF COVER - 2.5 FEET
4 TEMPORARY ACCESS ROAD FOR PIPE LINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	8.625" O.D. x 0.188" W.T. GR. 46
STANDARD WALL	8.625" O.D. x 0.322" W.T. GR. 46

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A21550	202,203,204
A22428	17,18,19

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 250 PSI

NO	DATE	REVISION	APP'D
	SEPT 1 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 5 1975
SCALE	1 TO 2000
DESIGN NO	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN

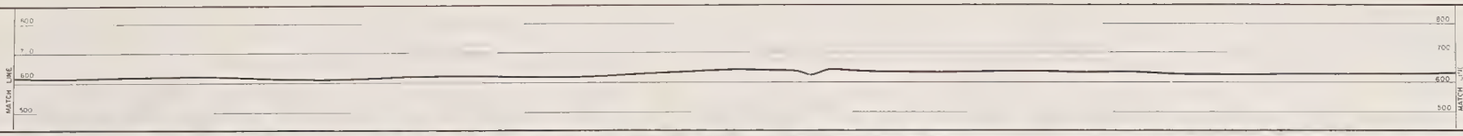
PHYSIOGRAPHIC DIVISION

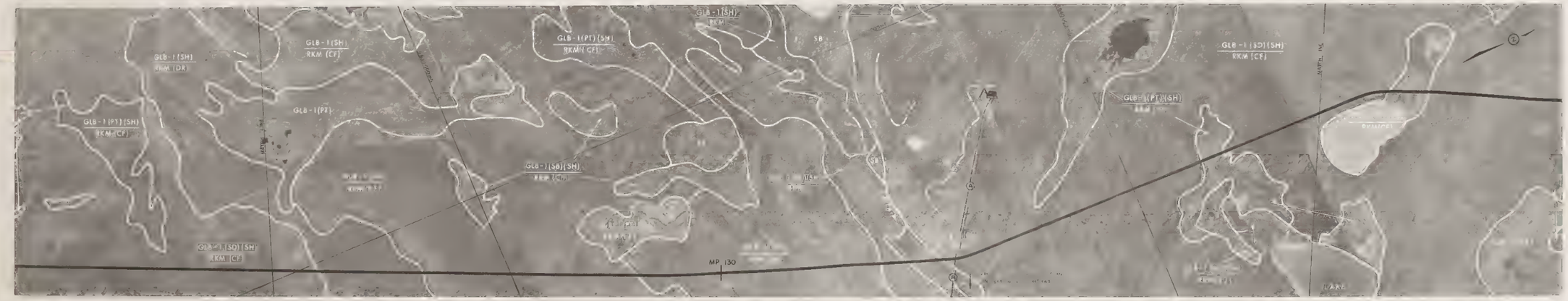
DRAWING/PLAN No. 74 06.0-2

DWG. No.

DRILL HOLE DATA

PIPELINE ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE DRAWING

MATCH LINE

ACCESS ROAD TO PIPELINE ALIGNMENT INTERPRETATION AND DRILL HOLE LOCATIONS ONLY, FOLLOWING CONTOURS

MATCH LINE

FOOTAGE THIS SHEET

CONSTRUCTION DATA

MP 29.5

MP 137.0

MP 35.4

DESIGN DATA

UTM GRID ZONE

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- MATERIAL STOCKPILE SITE
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- EXISTING HIGHWAY
- CONSTRUCTION CAMP (TEMPORARY)
- BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION AREAS, ROADS AND PERMANENT INSTALLATIONS SHOWN FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MODEL AREA MATRIX

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	8.625" O.D. x 0.188" W.T. GR. 46
STANDARD WALL	8.625" O.D. x 0.322" W.T. GR. 46

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A22428	7208,10
A22427	241,242,243
A21905	122,123,124

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE
MAXIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO.	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3 1975
DRAWN BY	
CHECKED BY	
APPROVED BY	

TITLE: ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0600 13

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cbbls (cobbles) — bldrs Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — i little 10 to 20%
s some 20 to 35% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

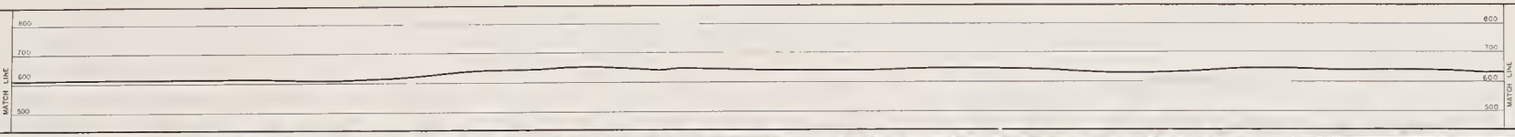
Brk bedrock — M M
contact — Fldd layered — vfg very fine gr
c c

INDEX MAP

DRILL HOLE DATA

PROFILE

PIPELINE ——— ACCESS ROAD - - - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CHAINAGE (Km)

MP 135.4

MATCH LINE

MATCH LINE

MP 144.6

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 11

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

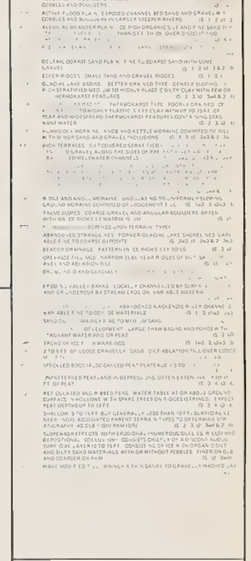
G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cobb Cobbles	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Rbrk bedrock	Gr Grass	Mn Mineral
c course	Lrd layered	org organic
cvr cover	lyrd layered	vegetat vegetation
f fine	m medium	varv varved



INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION		PERMANENT ACCESS ROAD	
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	
PROPOSED TEMPORARY WHARF		EXISTING HIGHWAY	
EXISTING WHARF		CONSTRUCTION CAMP (TEMPORARY)	
CNT REPEATER STATION		BORROW AREA	

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPE LINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER	8.625" O.D. x 0.188" W.T. GR 46
STANDARD WALL	8.625" O.D. x 0.322" W.T. GR 46

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A21505	122,123,124 /28,129,130

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
1	APR 5 1979	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3, 1978
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No.
SHEET 14 OF 34 0600-14

FILE No.

DRILL HOLE DATA

PIPELINE
PIPELINE ACCESS ROAD

MATCH LINE

800
700
600
500

MATCH LINE

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

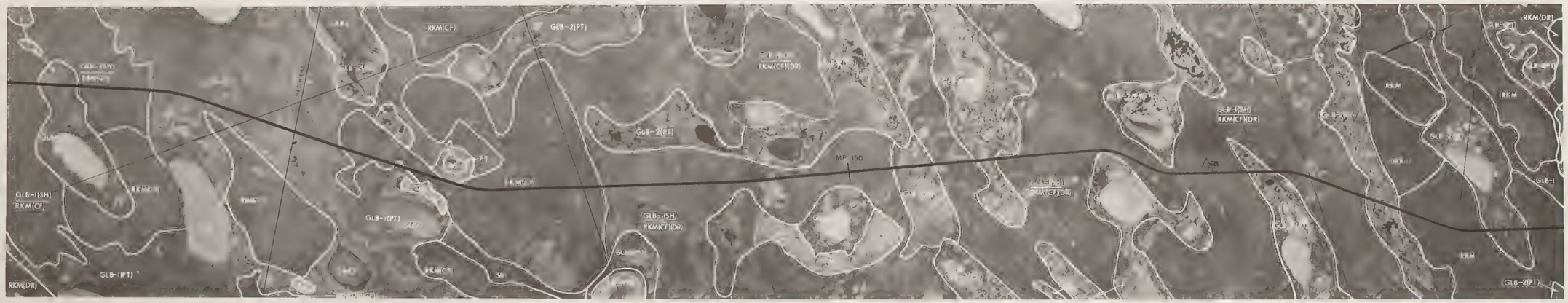
G Gravel
L Low plasticity
S Sand
M Silt
cbl cobbles
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
bldrs Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
some 20 to 35%
little 10 to 20%
trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Brk bedrock
stone
cr color
f fine
Gr Grey
Lmd layered
fyd layered
m medium
Mg Mass
org organic
vag vegetation
wd wooded



CONSTRUCTION DESIGN

REFERENCE DRAWING NO.

MATCH LINE

MATCH LINE

DESIGN DATA

MP 148.6

MP 155.5

UTM GRID ZONE 1

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS WATER A.

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 8.625 OD x 0.188" W.T GR 46
STANDARD WALL 8.625 OD x 0.322 W.T GR 46

AERIAL PHOTOGRAPHS

	ROLL NO	PHOTO NO
[illegible]	[illegible]	57, 58, 59
[illegible]	[illegible]	98, 99, 100

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE
MAXIMUM OPERATING PRESSURE

No.	DATE	REVISION	APP.
	15 MAR 75	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

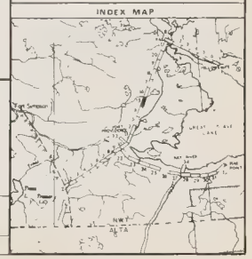
0 0.5 1.0 Miles

DATE	MARCH 5, 1975
SCALE	1 TO 2000
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN
PHYSIOGRAPHIC DIVISION

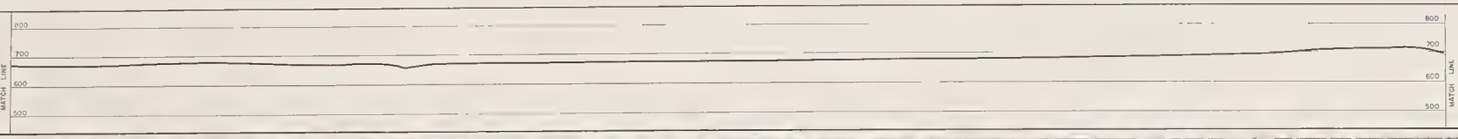
DRAWING PLAN NO
SHEET 15 OF 36 0600-15

INDEX MAP



DRILL HOLE DATA

PROFILE — PIPELINE ---- ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES — MATCH LINE — MATCH LINE

CONTINUOUS CHAINAGE (miles) — MP 165.5 — MP 165.0

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 11

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — F Fine to graded
cbl(s) cobble(s) — bldrs Boulders
C Clay — W Well graded

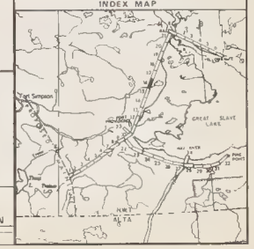
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — l little 10 to 20%
s some 20 to 35% — t trace 5 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — Gs Grass — Mx Mix
cv cover — lyrd layered — veg vegetation
f fine — m medium — vwd veined

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF GEOTECHNICAL INVESTIGATION AND FINAL SITE SELECTION

PIPELINE EXPOSED MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPE LINE CONSTRUCTION WILL BE LOCATED ALONG THE LINE RIGHT OF-WAY EXCEPT WHERE OTHERWISE SHOWN.

PIPE DATA

CARRIER 8.625" O.D. x 0.188" W.T. GR 46
STANDARD WALL 8.625" O.D. x 0.322" W.T. GR 46

AERIAL PHOTOGRAPHS

ROLL NO. A22428, A22548
PHOTO NO. 98,99,100; 5,6,7

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APP'D
1	APR 28 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

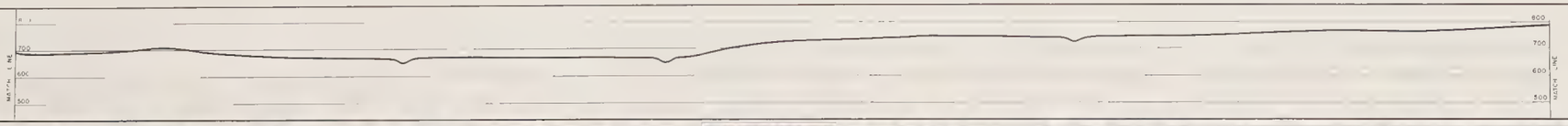
DATE MARCH 3, 1975
SCALE 1" to 2000'
DRAWN BY
CHECKED BY
APPROVED BY
S.P.V. ENGINEER

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN
PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No.
SHEET 16 OF 34 0600-16
FILE No.

DRILL HOLE DATA

PIPELINE ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING

MP 165.0 MATCH LINE

BORROW AREA (PHOTO INTERPRETATION)

MP 170.5

MATCH LINE

MP 1.2

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
Cl Clay — W Well graded
C Cobbles — m Medium graded

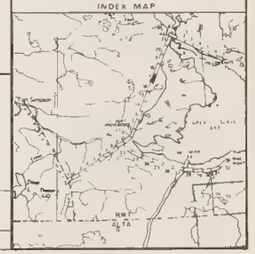
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

s sand 35 to 50% — t trace 1 to 10%
a some 20 to 35%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock — Gl Glaciated — Mt Moist
c coarse — bnd bedded — org organic
cvr cover — lyrd layered — veg vegetation
f fine — m medium — vrd varied

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- MATERIAL STOCKPILE SITE
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- EXISTING HIGHWAY
- CONSTRUCTION CAMP (TEMPORARY)
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION

SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS

3 MINIMUM DEPTH OF COVER - 2.5 FEET

4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

CARRIER 8.625 OD x 0.188 WT GR 46
STANDARD WALL 8.625" OD x 0.322 WT GR 46

ROLL NO	PHOTO NO
A21548	5, 6, 7, 36 37, 38 48, 49, 50

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

GENERAL

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 5 10 Miles

DATE
SCALE
DRAWN BY
CHECKED BY
APPROVED BY
SUPV. ENGINEER

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO 0600-17
SHEET 17 OF 34

BRILL HOLE DATA

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

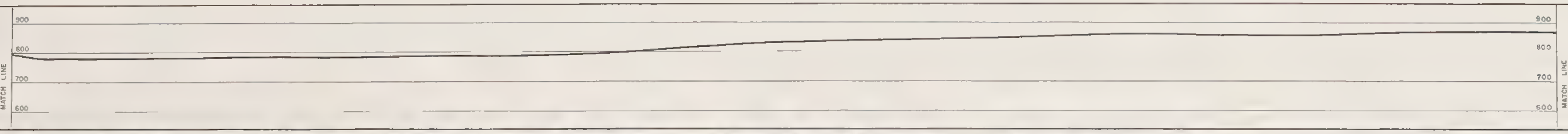
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Brck bedrock	Gs Grass	Ms Moss
c coarse	Lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m medium	vad varved

PROFILE



CONSTRUCTION DESIGN

REFERENCE DRAWING

MATCH LINE

MP 170.2

MP 186.5

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION	C	PERMANENT ACCESS ROAD	A
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	A
PROPOSED TEMPORARY WHARF	△	EXISTING HIGHWAY	
EXISTING WHARF	▲	CONSTRUCTION CAMP (TEMPORARY)	C
CNT REPEATER STATION		BORROW AREA	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	8.625" O.D. x 0.188 W.T. GR 46
STANDARD WALL	8.625" O.D. x 0.322 W.T. GR 46

ROLL NO	PHOTO NO
A 548	48 [illegible], 99,100,101

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	250 PSI

NO	DATE		
	APR 2 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 5 10 Miles

DATE
SCALE
DRAWN BY
CHECKED BY
APPROVED BY
SUPV ENGINEER

TITLE ALIGNMENT SHEET FOR *GREAT SLAVE PLAIN* PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No 0600-18
SHEET 18 OF 34

FILE No

INDEX MAP

BRILL HOLE DATA

PIPELINE ACCESS ROAD

MATCH LINE

000

1000

100

800

700

MATCH LINE

CONSTRUCTION DESIGN

REFERENCE DRAWING NO & NOTES

MATCH LINE

ACCESS ROAD TO BORROW AREA (NOTE: TEMPORARY ACCESS AND CONSTRUCTION CAMP)

MATCH LINE

FOOTAGE THIS SHEET

MP 0

MP 190

DESIGN DATA

UTM GRID ZONE 11

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
(cbl) cobbles	(bldr) Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i some 10 to 20%
a some 20 to 35%	i trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Rock Fragments	Mx Mixed
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

RAIL ACCESS TO DEVELOPMENT FACILITIES AND OR DEPOTS

EXISTING FEATURES

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION	C	PERMANENT ACCESS ROAD	A
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	A
PROPOSED TEMPORARY WHARF		EXISTING HIGHWAY	
EXISTING WHARF		CONSTRUCTION CAMP (TEMPORARY)	C
CNT REPEATER STATION		BORROW AREA	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MATERIAL

GENERAL NOTE

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 8.625 O.D. × 0.188 W.T. GR. X-42
STANDARD WALL 8.625 O.D. × 0.322 W.T. GR. X-

AERIAL PHOTOS

ROLL NO 10-548 PHOTO NO

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
[illegible] TEST PRESSURE 1800
[illegible] OPERATING PRESSURE [illegible] PSI

No.	DATE	REVISION	APPD
1	SEP 9 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0.5 0 Miles

DATE	MARCH 3, 1975
SCALE	1:2000
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	[illegible]
SUPV. ENGINEER	[illegible]

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING PLAN No. 0600-19

SHEET 9 OF 39

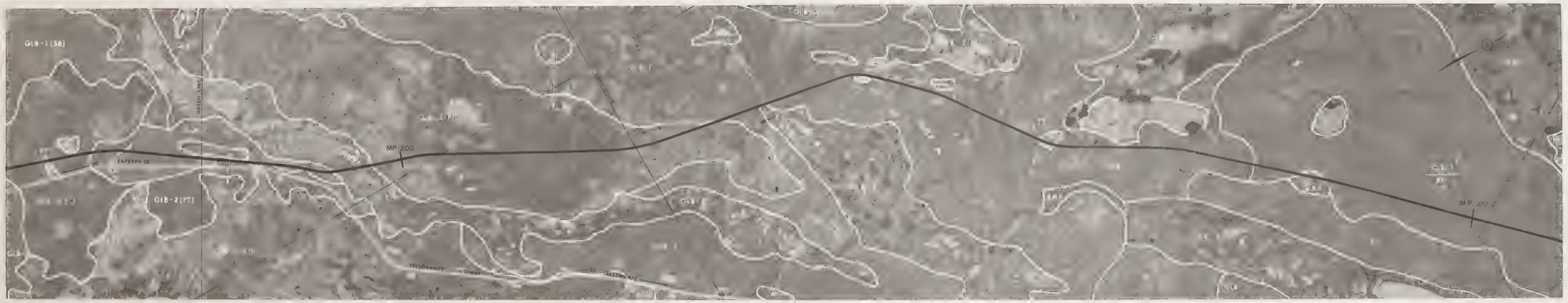
FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE ACCESS ROAD

MATCH LINE



CONSTRUCTION DESIGN

REFERENCE DRAWINGS & NOTES

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
Bld Bedrock — Bldr Boulders
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — 1 little 10 to 20%
s some 20 to 35% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk Bedrock — Gr. Grav. — Mx. Mixed
c coarse — Gr'ed Graded — org organic
m medium — well graded

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOG STICK STUDIES

GENERAL NOTE

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
MINIMUM DEPTH OF COVER - 2.5 FEET
2. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

PIPE	8.625 O.D. x 0.188 W.T. GR 46
STANDARD WALL	8.625 O.D. x 0.322 W.T. GR 46

AERIAL PHOTO

ROLL NO	PHOTO NO
A21548	165,164,167 183,184,185 227,228,229

OPERATING LICENSE NO
CONSTRUCT ON PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE
MAX. MOP OPERATING PRESSURE

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

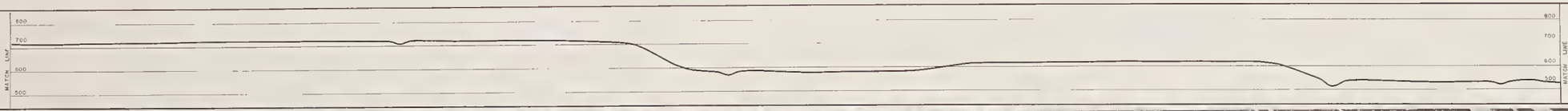
DATE
SCALE
DRAWN BY
CHECKED BY
APPROVED BY
CHIEF ENGINEER

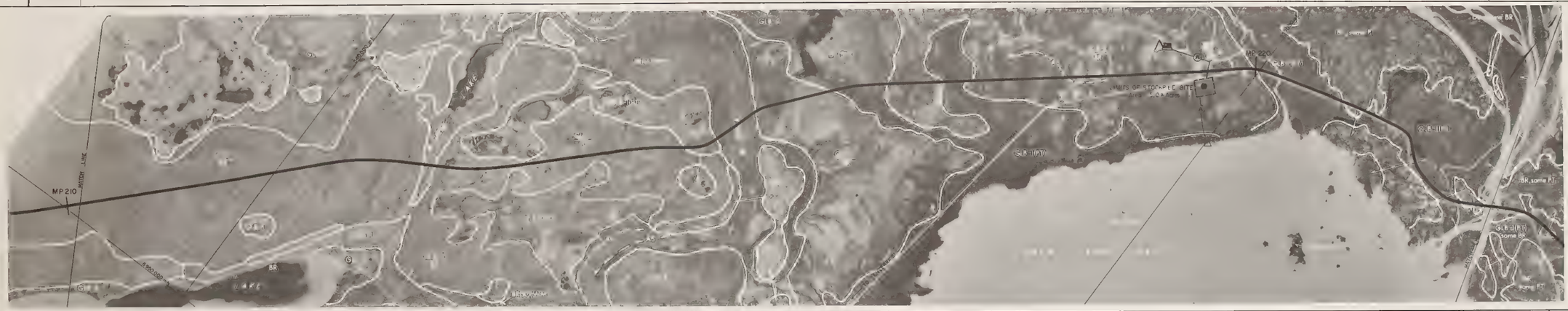
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

SHEET 20 OF 34 0600-20

DRILL HOLE DATA

PIPELINE ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MP 210.1 MATCH L.N.C.

ACCESS ROAD TO BORROW

MP 295

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE 1

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATONS

G Gravel
L Low plasticity
S Sand
M Silt
CM Clay
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
bldr Boulders
w Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
t little 10 to 20%
L trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
c coarse
crr corrie
f fine
Gs Grass
Lnd land
lyrd layered
m medium
Mt Mt.
deg degree
veg vegetation
vrd varved

TERRAIN STUDY NO 3 (TERRAIN ANALYSIS) BY
GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

ALLUVIAL FAN DEPOSITS POORLY SORTED SILT SAND GRAVEL SOME COBBLES AND BOULDERS (5 1 2 of 2w2P

ACTIVE FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL IN FINE COBBLES AND BOULDERS IN LARGER STREAMS WITH

ALLUVIAL MEANDER PLAIN

SAND AND GRAVEL OVERFLOW

SAND AND GRAVEL OVERFLOW

BEDROCK TERRAIN RIDGES AND NEARBY STEEPSIDE

DELTA (COARSE SAND PLAIN) (FINE TO COARSE SAND)

DRUMLINOIDS SMALL SAND AND GRAVEL RIDGES

PEAT AND IN DEPRESSIONS PEAT, PRESENT WITH SAND AND WATER

MORAINE MORAINE AND KETTLE MORAINE COMPOSED WITH MINOR SAND AND GRAVEL INCLUSIONS (5 1 2 of 2w2P

TERRACES SORTED STRATIFIED FLUVIAL ALLUVIAL OR OUTWASH AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND NEW MELTWATER CHANNELS (5 2 2w3 of 2w3 5 3w4

ROCK DRUMLIN COMPOSED OF ROCK HOLDED BY SOIL DEPOSITS COMMONLY 3 TO 15 FT THICK OVER TILL

RIDGE AND KNOLL MORAINE UNDULATING

ABANDONED STRANDLINES FORMER GLACIAL LAKE LEVELS TO COARSE SAND

DRAINAGE PATTERN OF IN DISTURBED SOILS

ERODING VALLEY BANKS LOCALLY CHANNELLED BY AND OR UNDERCUT BY STREAM EROSION VARIABLE MATERIAL

MELTWATER CHANNELS AND ABANDONED MEANDER PATTERN VARIABLE FROM COARSE WATER ALL (5 1 3 of 2w2

STAGNANT WATER AND OR PEAT

BASIN OF DEPRESSION 2 TO 3 FT OF LOOSE GRAVELLY SAND SILT BELOW WATER

SPECKLED BOGS ALSO CALLED PEAT PLATEAUS 3 TO 12 FT OF PEAT

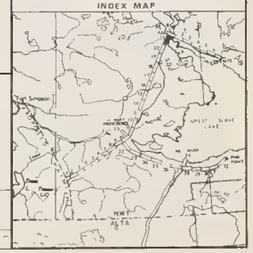
UNPATTERNED PEATLAND IN DEPRESSIONS OPEN EXTENT VARIES 3 TO 10 FT OF PEAT

BETTLEGATED AND RIBBED FENS WATER TABLE

SLIPPED HILLSIDES WITH SPARSE TREES ON RIDGES STEEP NOSE EXPECT PEAT DEPTHS UP TO 12 FT

BALLISTIC 10 TO 15 FT BUT GENERALLY LESS THAN 10 FT SHALLOW NOTE ASSOCIATED PARENT TERRAIN TYPES TO DETERMINE STRATIGRAPHY

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION.
2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
MINIMUM DEPTH OF COVER - 2.5 FEET
1 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 8.625 O.D. x 0.188 W.T. GR 46
STANDARD WALL 8.625 O.D. x 0.322 W.T. GR 46

AERIAL PHOTOGRAPHY

ROLL NO. A21548
PHOTO NO 248, 249, 250, 251 226, 229

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 250 PSI

NO	DATE	REVISION	APP'D
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE MARCH 3, 1975
SCALE
DRAWN BY
DESIGNED BY
APPROVED BY
CHIEF ENGINEER

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO. REV 21 14 0600-21

FILE

DRILL HOLE DATA

PIPE LINE ACCESS ROAD

BIFURCATION POINT & MATCH LINE

MATCH LINE

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

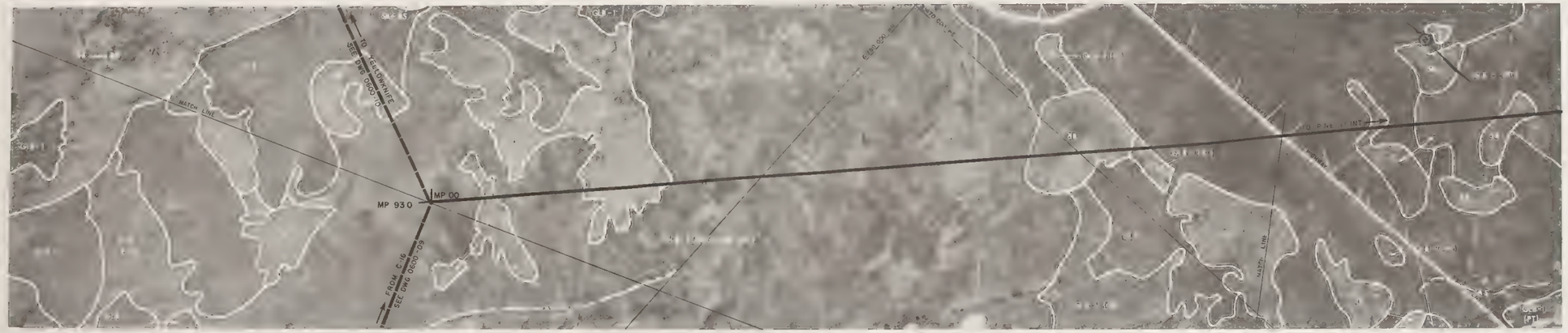
G Gravel
L Low plasticity
S Sand
M Silt
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
b Boulders
N Non graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock
c coarse
mt cover
Gr Grass
Lmd limited
lyrd layered
Mx Mixed
org organic
veg vegetation



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

BIFURCATION POINT BLOCK VALVE LOCATION

MATCH LINE

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

ALIGNMENT	6.625" O.D. x 0.156" W.T. GR 42
STANDARD WALL	6.625" O.D. x 0.280" W.T. GR 42

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A21550	170, 171, 172

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MAXIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	BY
		GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 5 10 Miles

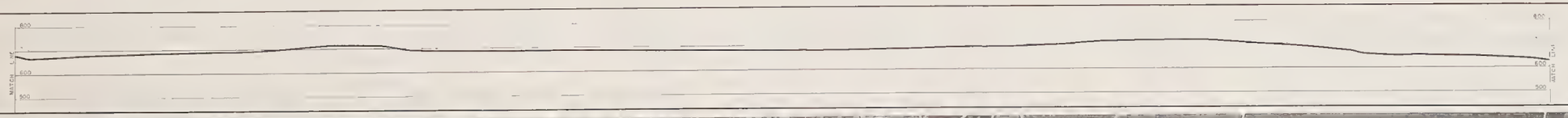
DATE	MARCH 3 1975
SCALE	1:10 000
DRAWN BY	
CHECKED BY	
APPROVED BY	

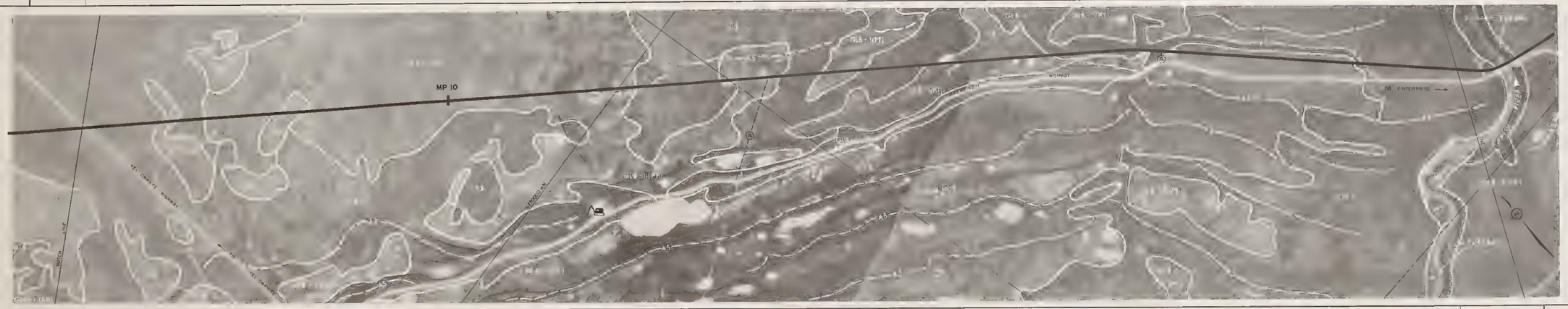
TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO. 0600-22

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

MP 6.7

GLB - WFT
GLB - DTM
(PHOTO INTERPRETATION)

ACCESS ROAD TO WRANGLER WORKSHEET

FOOTAGE THIS SHEET

DESIGN DATA

UTM 3R D ZONE

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
S Sand
M Silt
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
Bldr Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

and 35 to 50%
some 20 to 35%
little 10 to 20%
trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Brk bedrock
c coarse
crs coarse
f fine
Gs Grass
Lmd limed
lyrd layered
m medium
Mx Moss
org organic
vgt vegetation
vrd varved

CENTRAL DOWNCHES
SILTY CLAY WITH FEW
GRAVELS

PEAT AND WIDESPREAD THERMOKARST FEATURES COVER A
NAIL WATER

WATER - STRAIGHT ENDS AND KETTLE HOLES (LOW
D AND CHANEL NO. 25 ONE

AS PONDED ALLUVIUM INFILL
HOLES AND THERMAL KARST DUPREST

BEDS DOWNWARD 270 FEET ON DEVONIAN
ROCK

MORAINE - UNDULATING SOUTHWESTWARD
E COMPOSED OF - GOUGEMENT TILL (5 feet 3 shed
BARRE CHANEL AND ANGULAR BOULDERS

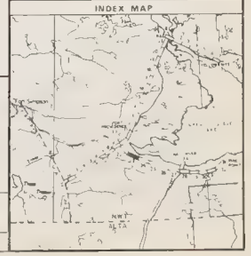
LEY BANKS - LOCALLY CHANNELLED
ALLUVIAL DREA AND FOOD - VAR AS

MELTWATER CHANNELS ALL ABANDONED MACKENZIE RIVER
VARIABLE FINE TO COARSE WATER ALS

TRENDS OF FLOW WAY ALS
270 FEET OF LOOSE GRAVELLY SAND SALT ABLATION TILL OVER LOOS
MOVT TILL

RETICULATED AND PIPED FEAT WATER FAULT AT OR ABOVE GROUND
FAULTS IN HOLLOWS AT THE SHARP TRESSES IN ROLLS BEYNOSH EFFECTS
EAT DI PING OF 10 FEET
MELLOWS 10 TO 15 FEET BUT GENERALLY LESS THAN 10

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 6.625" O.D. x 0.156" W.T. GR 42
STANDARD WALL 6.625" O.D. x 0.280" W.T. GR 42

AERIAL PHOTOGRAPHY

ROLL NO PHOTO NO

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No.	DATE	REVISION	APP'D

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 9 1979
SCALE	1:10 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN

PHYSIOGRAPHIC DIVISION

SHEET 23 OF 34 0600-23

DRILL HOLE DATA

PROFILE

PIPELINE
ACCESS ROAD

MATCH LINE

76.0

MATCH LINE

CONSTRUCTION DESIGN

DESIGN DATA

FOOTAGE

UTM GRID ZONE

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
(Br) Boulder	(Bo) Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	i little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock	Gs Grass	Mo Moss
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

FOR
GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

AFD ALLUVIAL FAN DEPOSITS POORLY SORTED SILT SAND GRAVEL 50%

[illegible] FLOOD PLAIN EXPOSED CHANNEL BED SAND AND GRAVEL WITH [illegible] STAND [illegible] LARGER STEEPER RIVERS G 2 3 [illegible]

AUP ALLUVIAL UNDERPLAIN SEE FROM ORGANIC SILT AND FINE SAND TO STRATIFIED GENERALLY LESS THAN 5 FT OR OVERBURDEN MORE SAND AND GRAVEL IN EFFECT G 3 3 [illegible]

[illegible] SEDIMENTS FROM SLOPES AND LARGER STEEP MOUNTAIN SLOPES

Dtu DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL [illegible]

[illegible] SMALL SAND AND GRAVEL FROM SLOPES [illegible]

GLACIAL LAKE BASINS BETTER DRAINED TYPE CENTRAL SILT MOUNTAIN TYPE [illegible]

[illegible] MORAINE [illegible] AND KETTLE GLACIAL COMPOSED OF TILL WITHIN NON SAND AND GRAVEL INCLUSIONS [illegible]

HIGH TERRACES SEE COLORED STRAT FIELD PLAN AND [illegible] SAND AND GRAVEL ALONG THE SIDES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS G 2 2a3 3a3 3b3 [illegible]

[illegible] MOTOCLIMAL [illegible] LACUSTRINE SEDIMENTS LARGER FLAT [illegible] KETTLE HOLES AND SEDIMENTARY DEPOSITS [illegible]

ABLE FINE TO COARSE DEPOSITS G 2a [illegible]

BD BEADED DRAINAGE PATTERN IN CLAY RICH SILTY SOILS

GT GRAVEL TRAINS NARROW DISCONTINUOUS RIDGES OF SILT SAND OR [illegible]

AND OR UNDERCUT BY STREAM EROSION VARIABLE MATERIALS G 3 [illegible]

THERMOKARST DEVELOPING LARGE THAW BASINS [illegible]

G 1a2 3 [illegible]

SPHAGNUM BOG SMALLER CALLED PEAT PLATEAUS [illegible] PEAT

UNPATTERNED PEAT LAND IN DEPRESSIONS OFTEN ENTERED [illegible] (PEAT)

[illegible] WATER TABLE AT OR ABOUT GROUND [illegible] FREEZE UP (SUMMER NO. EXPLT)

PEAT DEPTHS UP TO 12FT G 3 4 3 [illegible]

SHALLOW 5 TO 15FT BUT GENERALLY LESS THAN 10FT SURFACE [illegible]

[illegible] NUMEROUS GULLIES PLAIN LAND

DEPOSITIONAL DELTAIC [illegible] CONSISTS OF 4 0 50% FINE SAND [illegible] CONSISTS OF DEPOSITS OF [illegible] AND SILTY SAND WATERLAIS WITH OR WITHOUT PEBBLES PARTICULARLY AND COARSER ON RIM G 3 [illegible]

[illegible] SILTS VERY FAIR TO SANDY TO GRAVELLY AND [illegible]

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	H
COMPRESSOR STATION	C	PERMANENT ACCESS ROAD	A
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	A
PROPOSED TEMPORARY WHARF		EXISTING HIGHWAY	
EXISTING WHARF		CONSTRUCTION CAMP (TEMPORARY)	C
CNT REPEATER STATION		BORROW AREA	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3 MINIMUM DEPTH OF COVER = 2.5 FEET
4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	6.625 O.D. x 0.156 WT GR 42
STANDARD WALL	6.625" O.D. x 0.280 WT GR 42

AERIAL PHOTOGRAPHS

ROLL NO.	PHOTO NO.
A21550	170,171,172,173
A21530	16,17,18,19

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

No.	DATE	REVISION	APPD
1	APR 9 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3 1975
SCALE	1:10 000
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	[illegible]
[illegible] DATE	

TITLE ALIGNMENT SHEET FOR
GREAT SLAVE PLAIN
PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO
SHEET 24 OF 34 0600-24

FILE

DRILL HOLE DATA

PROFILE

PIPELINE ACCESS ROAD

MATCH LINE

800
700
600
500

STATION L.H.C.

CONSTRUCTION DESIGN

REFERENCE DRAWING & REPORT

MATCH LINE

FOOTAGE THIS SHEET

MATCH LINE

DESIGN DATA

UTM GRID ZONE 1

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
S Sand
M Silt
C Clay
O Organic
Pt Peat
P Poorly graded
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

and 35 to 50%
some 20 to 35%
little 10 to 20%
trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
Gr Grass
Mo Moss
Lmd laminated
lyrd layered
org organic
veg vegetation

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 3.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	6.625 O.D. x 0.156 W.T.	GR 42
STANDARD WALL	6.625 O.D. x 0.280 W.T.	GR 42

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO
A 2-530	33,34,35,36,37

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE 1800 PS
MAXIMUM OPERATING PRESSURE 1250 PS

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 5 10 Miles

DATE
SCALE
DRAWN BY
CHECKED BY
APPROVED BY
SUPV. ENGINEER

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. 0600-25

FILE No.

DRILL HOLE DATA

PROFILE

PIPELINE
ACCESS ROAD

MATCH LINE

800
700
600
500

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

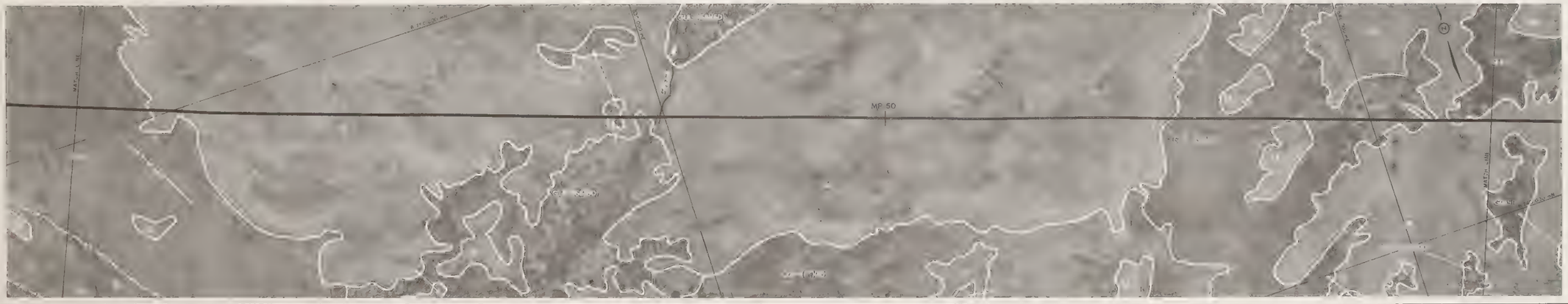
G Gravel
L Low plasticity
S Sand
M Silt
cbl(s) cobble(s)
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
bldr Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

e and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

c coarse
f fine
m medium



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

MP 47.5

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOG-STICS STUDIES

GENERAL NOTE

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER – 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPE LINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT-OF-WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 6.625" O.D. x 0.156" W.T. GR. 42
STANDARD WALL 6.625" O.D. x 0.280" W.T. GR. 42

ROLL NO.	PHOTO NO.
A 21530	33, 34, 35 165, 166, 167, 168

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

DATE	BY	REVISION
		GENERAL

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 1 1975
SCALE	1 TO 2000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO. 0600-26
SHEET 26 OF 34

DRILL HOLE DATA

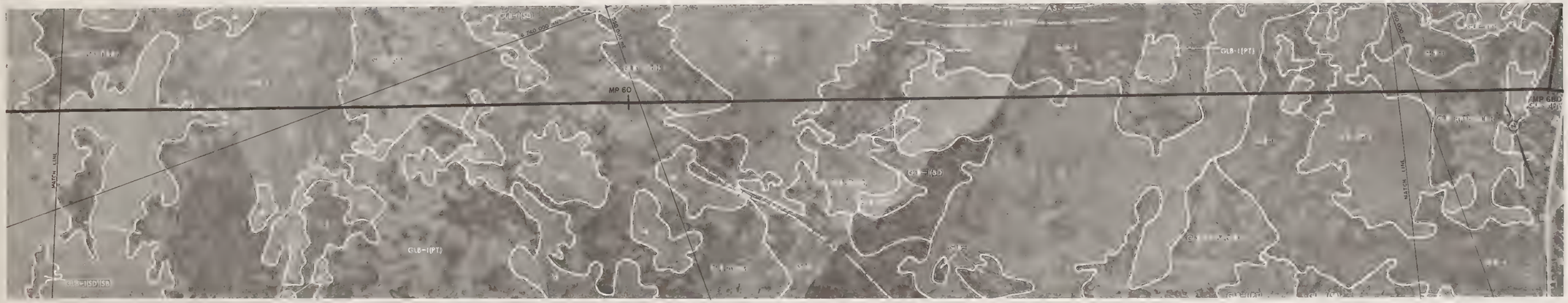
PIPELINE
ACCESS ROAD

MATCH LINE

800
700
600
500

8.0
7.0
6.0

MATCH LINE



CONSTRUCTION DESIGN

REFERENCE DRAWING NO & DETAILS

MATCH LINE

MATCH LINE

MP 59.0

MP 61.0

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 11

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Low plasticity
S Sand
M Silt
cbl(s) cobble(s)
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
bldr(s) Boulders
W Well graded

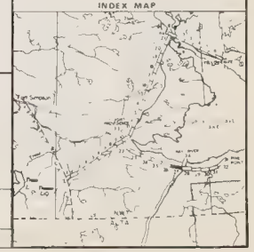
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 - 50%
t some 20 - 35%
l little 10 to 20%
trace 1 - 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
c coarse
f fine
Gr Grav
Lnd layered
Sprd bedded
m medium

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MATERIAL AREA	MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	6.625" O.D. x 0.156" W.T. GR 42
STANDARD WALL	6.625" O.D. x 0.280" W.T. GR 42

AERIAL PHOTOGRAPHS

ROLL NO.	PHOTO NO.
A23373	17, 18, 19, 20, 21, 22, 23, 24, 25

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

DATE	REVISION	APPD
	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE MARCH 3 1975

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN

PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No.
SHEET 27 OF 34 0600-27

DRILL HOLE DATA

PIPELINE
ACCESS ROAD

MATCH LINE

700
600
500
400

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

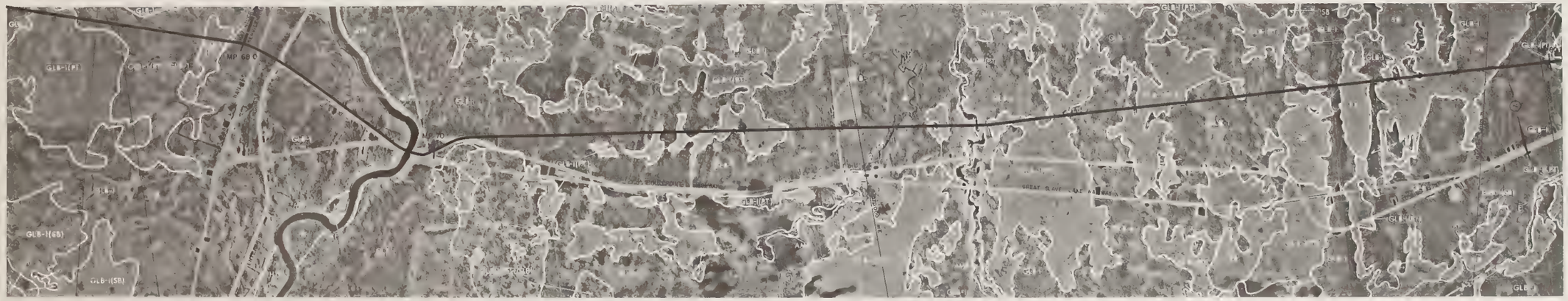
G Gravel
L Low plasticity
S Sand
M Silt
cobbles cobbles
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
bldrs Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock
Gl Grad
Ms Moss



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

MP 66.8 MATCH LINE

MP 68.0 PIPELINE CONNECT SERVICE SEE DWG 0600-34

MP 68.3 A 75 X 75 BORROW AREA

MATCH LINE

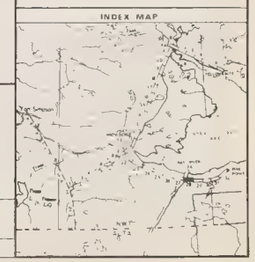
MP 72.0

FOOTAGE THIS SHEET

DESIGN DATA

UTM GRID ZONE

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	6.625" O.D. x 0.156 W.T. GR 42
STANDARD WALL	6.625 O.D. x 0.280 W.T. GR 42

AERIAL PHOTOGRAPHS

ROLL NO.	PHOTO NO.
A22432	110, 111, 112
A23373	199 TO 214

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE 440 PS
MAXIMUM OPERATING PRESSURE

NO	DATE	REVISION	APPD
1	APR 2 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3 1975
SCALE	1 : 20 000
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

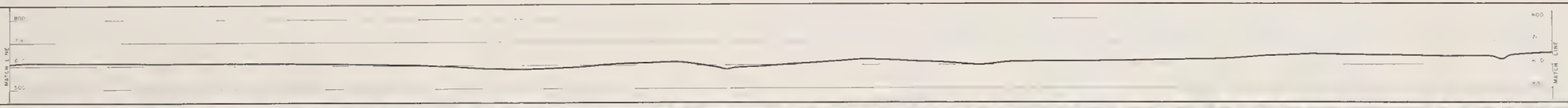
DRAWING/PLAN NO 0600-28

TITLE NO

DRILL HOLE DATA

PROFILE

PIPE LINE
ACCESS ROAD



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

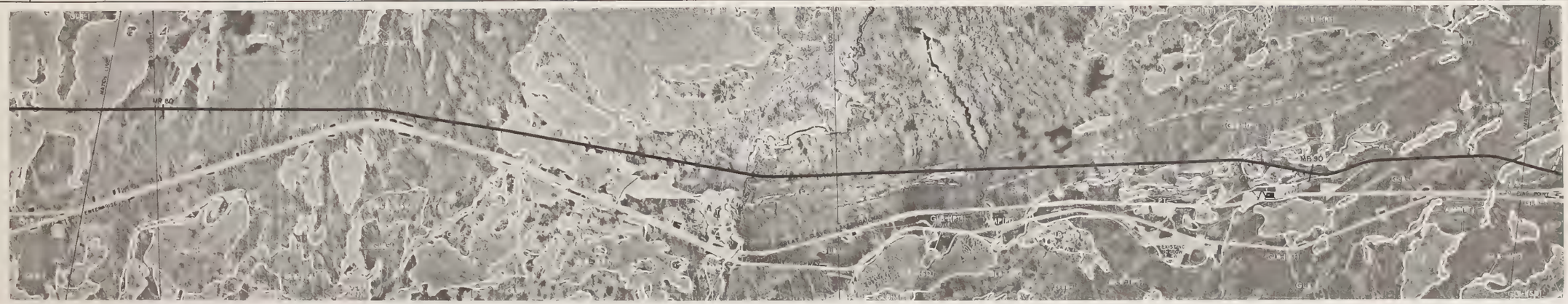
G Gravel
S Sand
M Silt
C Clay
Bldrs Boulders
O Organic
H High plasticity
Pt Peat
P Poorly graded
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

and 35 to 50%
some 20 to 25%
little 10 to 20%
trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdk bedrock
c coarse
f fine
Gr Grass
Lmd limed
lyrd layered
m medium
My Moss
org organic
veg vegetation
wvd waved



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

ACCESS ROAD TO BORROW AREA (BORROW INTERPRETATION)

MATCH LINE

FOOTAGE THIS SHEET

MP 79.0

MP 89.3

MP 92.0

DESIGN DATA

UTM GRID ZONE 11

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CMT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MATERIAL STOCKPILE

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 6.625" O.D. x 0.156" W.T. GR. 42
STANDARD WALL 6.625" O.D. x 0.250" W.T. GR. 42

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A25573	190,191,192,193 194,195,196,197 198,199,200

OPERATING LICENSE NO.
CONSTRUCTION PERMIT NO.
DESIGN PRESSURE 440
MINIMUM TEST PRESSURE 18
MAXIMUM OPERATING PRESSURE 1250

No.	DATE	REVISION	APP'D
	AUG 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

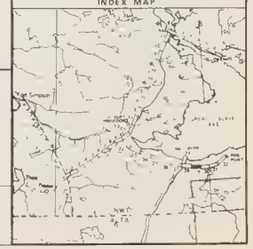
0 5 10 Miles

DATE
SCALE
DRAWN BY
CHECKED BY
APPROVED BY
SUPV. ENGINEER

TITLE ALIGNMENT SHEET FOR *GREAT SLAVE PLAIN*
PHYSIOGRAPHIC DIVISION

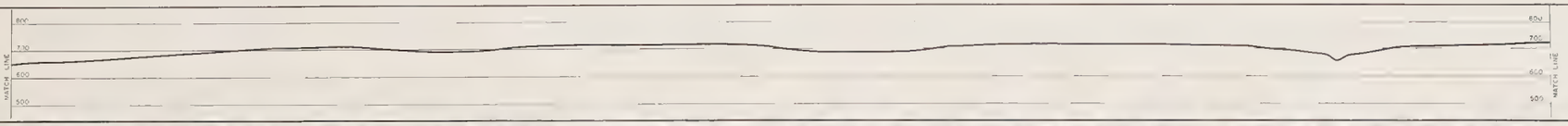
DRAWING NO. PLAN
SHEET 29 OF 34
0600-29
FILE NO.

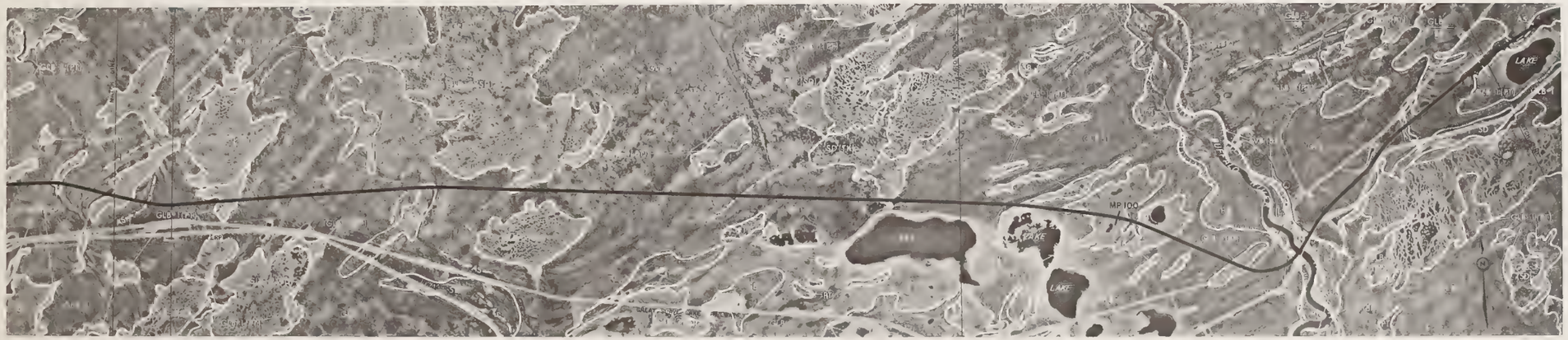
INDEX MAP



DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD





CONSTRUCTION DESIGN

REFERENCE DRAWING NUMBER

MATCH LINE

A.T.S. ROAD TO

MATCH LINE

FOOTAGE THIS SHEET

MP 92.0

MP 1.6

MP 103.4

DESIGN DATA

UTM GRID ZONE

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- MATERIAL STOCKPILE SITE
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- EXISTING HIGHWAY
- CONSTRUCTION CAMP (TEMPORARY)
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 6.625 O.D. x 0.156" W.T. GR 42
STANDARD WALL 6.625 O.D. x 0.280" W.T. GR 42

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A23373	183,184,185,186 187,188,189,190

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE
MAXIMUM OPERATING PRESSURE 1250 PSI

NO.	DATE	BY	REVISION
	APR 4/74		GENERAL

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE
SCALE
DRAWN BY
CHECKED BY
APPROVED BY
ENGINEER

TITLE ALIGNMENT SHEET FOR *GREAT SLAVE PLAIN*
PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO. 0600-30
SHEET 30 OF 38

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Low plasticity
S Sand
M Silt
Ml Mixture
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
Bldr Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
t trace 10 to 20%
f trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Gra Gravel
Ml Mixture
Lyd layered
Lyd layered
m medium
Mo Moist
Dry dry
Wet wet

MORAINE KAME AND KETTLE MORAINE (G MORE OR LESS SAND AND GRAVEL INCLUDING (S 1 2 3) 2m3 8 2 2m
KAMES (S) SUCCESSIVELY STRATIFIED EDIFICES AND DRIFT TRACTS SAND AND GRAVEL ALONG THE SITES OF PRESENT RIVER VALLEYS AND ABANDONED MELTWATER CHANNELS (S 2 2m3 (2 2m3 8 2 2m
ACRIFIC POINDER LIQUIFIER SEDIMENTS

ABANDONED WIDE ENDS RIVER CHANNELS
SEDIMENTS (S 1 2 2m2 2m2

LAKE TERRACE FEATURES

WATER LEVEL AND WATER TABLE
WATER TABLE AT OR ABOVE GROUND SURFACE INDICATING IN THE PRESENT PRESSURE DOES SPRINGS SURFACE FLAT DEPTH UP TO 5 FEET
SHALLOW 5 TO 15 FT BUT GENERALLY LESS THAN 10 FT BELOW GROUND SURFACE
DEEP 15 FT TERRA + EXPECTED TO BE FURTHER DEEPER

GRAVEL UP TO 10 CM

INDEX MAP

DRILL HOLE DATA

PROFILE

PIPELINE ——— ACCESS ROAD - - -

MATCH LINE

600 700 800

CONSTRUCTION DESIGN

REFERENCE DRAWING & NO. (S)

MATCH LINE

MILEAGE CONSTRUCTION — km.

MP 103.6

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Low plasticity
S Sand
M Silt
cb(s) cobble(s)
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
Bldrs Boulders
W - Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
some 20 to 35%
l little 10 to 20%
t - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk Bedrock
c coarse
cbl cobble
Gr Grass
Lnd erosion
lyrd layered
Ms Moss
org organic
veg vegetation

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MATERIALS

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 6.625 O.D. x 0.156" W.T. GR 42
STANDARD WALL 6.625" O.D. x 0.280" W.T. GR 42

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A23373	49,50,51,52,53 54,55,56 177,178,179,180 181 82

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 480 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

REVISIONS

NO	DATE	BY	REVISION
1	1974		GENERAL

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE ALIGNMENT SHEET FOR GREAT SLAVE PLAIN PHYSIOGRAPHIC DIVISION

DRAWING PLAN NO
SHEET 31 OF 34 0600-31

DRILL HOLE DATA

PROFILE

PIPELINE

ACCESS ROAD

MATCH LINE

METER AND REGULATOR STATION

900	900
800	800
700	700
600	600

CONSTRUCTION DESIGN

DESIGN DATA

BORROW AREA

METER AND REGULATOR STATION

FOOTAGE THIS SHEET

UTM GRID ZONE

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

and 35 to 50%	l. - little 10 to 20%
s. some 20 to 35%	t. - trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Ms Moss
c course	Lnsd lensed	org organic
cvr cover	lyrd layered	veg vegetation
f fine	m - medium	vvd varved

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE	—	PROPOSED HELIPAD	
COMPRESSOR STATION	C	PERMANENT ACCESS ROAD	—A—
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	--A--
PROPOSED TEMPORARY WHARF	△	EXISTING HIGHWAY	—
EXISTING WHARF	▲	CONSTRUCTION CAMP (TEMPORARY)	C
CNT REPEATER STATION		BORROW AREA	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	6.625" O.D. x 0.156 W.T. GR 42
STANDARD WALL	6.625 O.D. x 0.280" W.T. GR 42

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A23372	145, 146, 147
A23371	50, 51, 52, 53, 54

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO	DATE	REVISION	APP'D
1	APR 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	
SCALE	
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

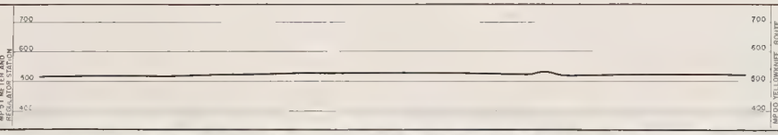
TITLE ALIGNMENT SHEET FOR *GREAT SLAVE PLAIN* PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. SHEET 32 OF 34 0600 - 32

DRILL HOLE DATA

PROFILE

PIPELINE ——
ACCESS ROAD - -



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES	METER AND REGULATOR STATION	YELLOWKNIFE ROUTE SEE DWG 0600-10
	MP 51	MP 00
DESIGN DATA		

FOOTAGE

UTM GRID ZONE 1

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
cbbl. (cobbles) — bldrs. Boulders
C Clay — W Well graded

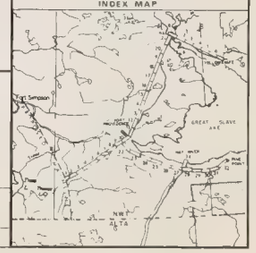
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — l little 10 to 20%
s some 20 to 35% — t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock — Gr Grass — Mis Misc
c coarse — Lnd land — org organic
cov cover — lyrd layered — veg vegetat
f fine — m medium — wtd wetland

INDEX MAP



PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- MATERIAL STOCKPILE SITE
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- EXISTING HIGHWAY
- CONSTRUCTION CAMP (TEMPORARY)
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2 5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	3 500 O D x 0 109' W T	GR 42
STANDARD WALL	3 500" O D x 0 216' W T	GR 42

AERIAL PHOTOGRAPHS

ROLL NO	PHOTO NO.
A21530	196, 197, 198

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PS
MINIMUM TEST PRESSURE 1800 PS
MAXIMUM OPERATING PRESSURE 1250 PS

NO	DATE	REVISION	APP'D
1	4-29-75	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3 1975
SCALE	TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

TITLE: GAS SERVICE TO FORT PROVIDENCE

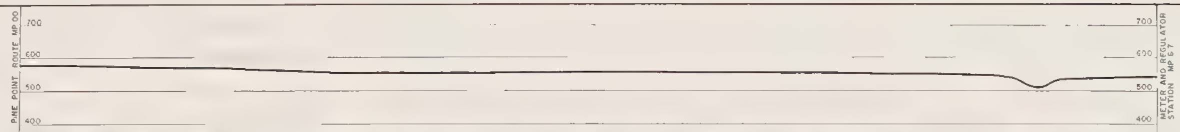
DRAWING/PLAN No SHEET 33 OF 34 0600-33

FILE

DRILL HOLE DATA

PROFILE

PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES: PINE POINT ROUTE SEE DWG 0600-28 | METER AND REGULATOR STATION | METER AND REGULATOR STATION

MP 68.0 / MP 0.0 | MP 3.3 | MP 6.7

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 11

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

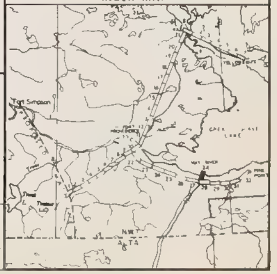
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

cvr cover	lyrd layered	veg vegetation
f fine	m medium	vvd varved

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION		PERMANENT ACCESS ROAD	
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	
PROPOSED TEMPORARY WHARF		EXISTING HIGHWAY	
EXISTING WHARF		CONSTRUCTION CAMP (TEMPORARY)	
CNT REPEATER STATION		BORROW AREA	

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS.
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	4.500" O.D. x 0.109" W.T. GR. 17
STANDARD WALL	4.500" O.D. x 0.237" W.T. GR. 42

AERIAL PHOTOGRAPHS

ROLL NO	PHOTO NO
A22432	110,111,112
A23372	113,114,115
A23371	84,85,86

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

No	DATE	REVISION	APPD
1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES
GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV ENGINEER	

TITLE: GAS SERVICE TO HAY RIVER

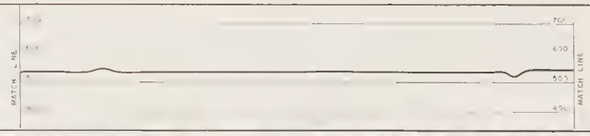
DRAWING/PLAN No. 0600-34
SHEET 34 OF 34

DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD - - - -



REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Lacustrine	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
Bl Bedrock	Blds Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Brk bedrock	Gs Grass	Ms Moss
c coarse	L/ref layered	org organic
cov cover	lyrd layered	veg vegetation
f fine	m medium	vvd varved

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
BEAR - SLAVE UPLAND
PHYSIOGRAPHIC DIVISION

A BEDROCK TERRAIN PROGRESS AND NEARBY STEEP MOUNTAIN SLOPES

B DELTAIC FINE SAND PLAIN ICE RICH FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS
(5 2 4) 2m3

C DELTAIC COARSE SAND PLAIN FINE TO COARSE SAND WITH SOME GRAVEL SIZES
(5 1 3 4) 2 8 7 31

D GLACIAL LAKE BASIN BETTER DRAINED TYPE GENTLY SLOPING ICE RICH STRATIFIED MED UM TO HIGHLY PLASTIC SILTY CLAY WITH FEW OR NO THERMOKARST FEATURES
(5 2 2m3 4) 2m4

E GLACIAL LAKE BASIN THERMOKARST TYPE POORLY DRAINED ICE RICH MED UM TO HIGHLY PLASTIC SILTY CLAY WITH UP TO 15 FEET OF PEAT AND WIDESPREAD THERMOKARST FEATURES CONTAINING STAGNANT WATER
(5 3 4) 4)

F WATERLOGGED PEATLAND IN DEPRESSIONS, OFTEN EXTENSIVE 3 TO 15 FT OF PEAT
(5 3 4) 4)

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

CONSTRUCTION CHANGES (on site)

DESIGN DATA

MP 2.... MATCH LINE ℄ FRANK CHANNEL

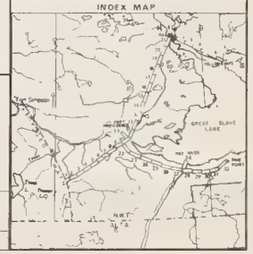
MP 22 ... REA COMMUNITY BOUNDARY SEE DWG 0700-0800

MP 2 ... ACCESS ROAD TO BORROW AREA (PHOTO INTERPRETATION)

MP 2.... MATCH LINE

UTM GRID ZONE 11

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION	C	PERMANENT ACCESS ROAD	A
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	A
PROPOSED TEMPORARY WHARF	△	EXISTING HIGHWAY	
EXISTING WHARF		CONSTRUCTION CAMP (TEMPORARY)	C
CNT REPEATER STATION		BORROW AREA	

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION

2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS

3 MINIMUM DEPTH OF COVER = 2 5 FEET

4 TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

PIPE	8 625 O D x 0 188 W T GR 46
STANDARD WALL	8 625 O D x 0 322 W T GR 46

AERIAL PHOTOGRAPHY

ROLL NO	PHOTO NO
A21548	249, 250
A21505	20, 21, 22

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE
MINIMUM TEST PRESSURE
MAXIMUM OPERATING PRESSURE 1250 PSI

DATE	BY	SUBJECT	REF
69 11 17		ENERGA	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 5 10 Miles

DATE
SCALE
DRAWN BY
CHECKED BY
APPROVED BY

TITLE ALIGNMENT SHEET FOR BEAR-SLAVE UPLAND PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No
SHEET 1 OF 8 0700-01

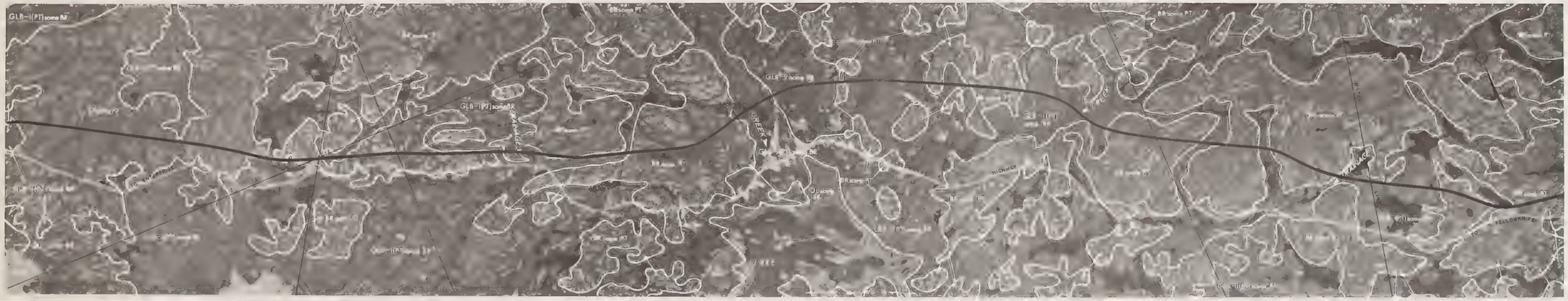
DRILL HOLE DATA

PROFILE

PIPELINE
ACCESS ROAD

MATCH LINE

700
600
500
400



CONSTRUCTION DESIGN

REFERENCE DRAWING
& NOTES

CONSTRUCTION
CHAINAGE

MP 226.0

MATCH LINE

MP 235.7

DESIGN DATA

UTM GRID ZONE 11

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- MATERIAL STOCKPILE SITE
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- EXISTING HIGHWAY
- CONSTRUCTION CAMP (TEMPORARY)
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS SHOWN HERE HAS AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	8.625" O.D. x 0.188" W.T. GR. 46
STANDARD WALL	8.625" O.D. x 0.322" W.T. GR. 46

ROLL NO.	PHOTO NO.
A 21548	221, 222, 223, 224, 225, 241, 242

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO

DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

1	APR 3 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY SUPV. ENGINEER	

TITLE ALIGNMENT SHEET FOR BEAR-SLAVE UPLAND PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO. 0700-02 FILE 5

SHEET 2 OF 8

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
Co Cobbles	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
Bldrs (cobbles)	Bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gs Grass	Ms Moss
c coarse	Lnd land	org organic
	hrd hardened	veg vegetation
	m medium	wd wooded

TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR
BEAR-SLAVE UPLAND
PHYSIOGRAPHIC DIVISION

Z8 BEDROCK TERRAIN: RIDGES AND NARROW STEEP MOUNTAIN SLOPES

D1 DELTA-FACE SAND PLAIN: ICE-RIDGE FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS

D2 DELTA-FLAT SAND PLAIN: FINE TO COARSE SAND WITH SOME

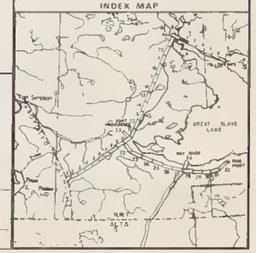
K1 KAMES: IRREGULAR DRAINED TYPE: GENTLE SLOPING OF

K2 GLACIAL LAKE BASIN: THERMOKARST TYPE: POORLY DRAINED ICE RICH SILTY CLAY WITH ONLY PLASTIC SILTY CLAY WITH FEW

K2.7 GLACIAL LAKE BASIN: THERMOKARST TYPE: POORLY DRAINED ICE RICH SILTY CLAY WITH UP TO 1 METRE OF PEAT AND WELL DRAINED THERMOKARST TEXTURES CONTAINING

ONE OF THE EXTENSIVE

INDEX MAP



DRILL HOLE DATA

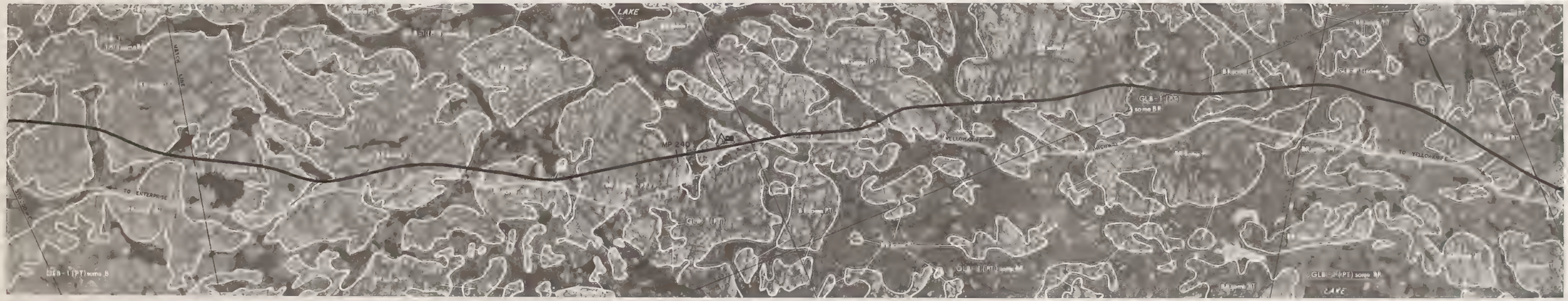
PROFILE
PIPELINE
ACCESS ROAD

MATCH LINE

700
600
500
400

PROFILE FLUCTUATES BETWEEN ELEVATIONS 570 AND 600 (ROCK OUTCROPPING)

MATCH LINE



CONSTRUCTION DESIGN

REFERENCE DRAWING & POINTS

MATCH LINE

BORROW AREA (EXISTING)

MATCH LINE

FOOTAGE THIS SHEET

MP 239.4

MP 240.4

MP 241.4

DESIGN DATA

UTM GRID ZONE 11

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Low plasticity
S Sand
M Silt
(or U) Inorganic
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
Bldrs Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%
s some 20 to 35%
l little 10 to 20%
t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Brk bedrock
cr
v cover
f fine
Gs Grass
f fissured
lyrd layered
m medium
Ms Moss
veg vegetation
vrd veined

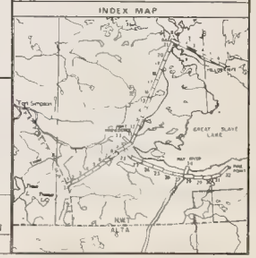
TERRAIN TYPES AND TERRAIN SENSITIVITY LEGEND

BR BEDROCK TERRAIN RIDGES AND VERY STEEP MOUNTAIN SLOPES

HU2 GLACIAL LAKE BASIN SHERIDAN ART TYPE POORLY CLAY WITH OF ANY TREATMENT PROVE

PT UNPATTERNED OPEN LAND & DEPRESSIONS OFTEN EXTENSIVE

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1 THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2 SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3 MINIMUM DEPTH OF COVER = 2.5 FEET
4 TEMPORARY ACCESS ROAD FOR PIPELINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER 8.625 O.D. x 0.188 WT GR 46
STANDARD WALL x 62' (10 x 0.62, 0.1 x 1.)

AERIAL PHOTOGRAPHY

ROLL NO. 4, 5, 6
PHOTO NO 22, 23, 24, 25 224,225

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

No	DATE	REVISION	APPD
1	APRIL 1974	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 MILES

DATE MARCH 3, 1975
SCALE 1 to 2000
DRAWN BY
CHECKED BY
APPROVED BY
ENGINEER

TITLE ALIGNMENT SHEET FOR BEAR-SLAVE UPLAND PHYSIOGRAPHIC DIVISION

DRAWING/PLAN No. SHEET 3 OF 8 0700-03

TITLE No.

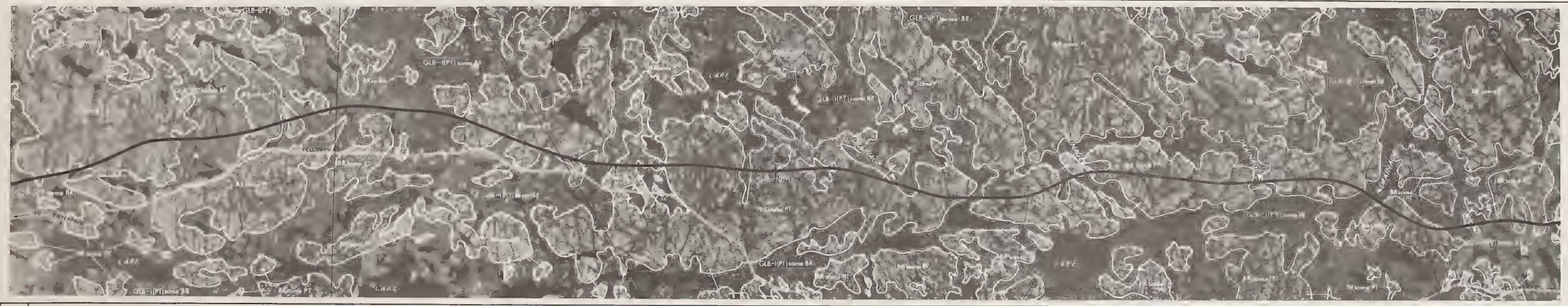
DRILL HOLE DATA

PROFILE

PIPELINE ——— ACCESS ROAD - - -

PROFILE FLUCTUATES BETWEEN ELEVATION 570 AND 600 (ROCK OUTCROPS)

MATCH LINE 700 650 600 550 500 400



CONSTRUCTION DESIGN

REFERENCE DRAWING NUMBERS

MATCH LINE

MILEAGE

MP 245.9

DESIGN DATA

UTM GRID ZONE 11

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel — O Organic
L Low plasticity — H High plasticity
S Sand — Pt Peat
M Silt — P Poorly graded
Bo Boulders — Bl Blocks
C Clay — W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50% — t little 10 to 20%
s some 20 to 35% — r trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Brk bedrock — Gs Grass — Ms Moss
[illegible] — [illegible] — [illegible] vegetation
[illegible] — [illegible] — [illegible]

[illegible]

INDEX MAP

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- MATERIAL STOCKPILE SITE
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- EXISTING HIGHWAY
- CONSTRUCTION CAMP (TEMPORARY)
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	8.625" O.D. x 0.188" W.T.	GR. 46
STANDARD WALL	8.625" O.D. x 0.322" W.T.	GR. 46

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 21548	192, 193, 194, 195, 221, 222

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

NO	DATE	REVISION	APP
1	APRIL 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 5 10 Miles

DATE	MARCH 1 1975
SCALE	1" TO 2000'
DRAWN BY	[illegible]
CHECKED BY	[illegible]
APPROVED BY	
SUPV. ENGINEER	

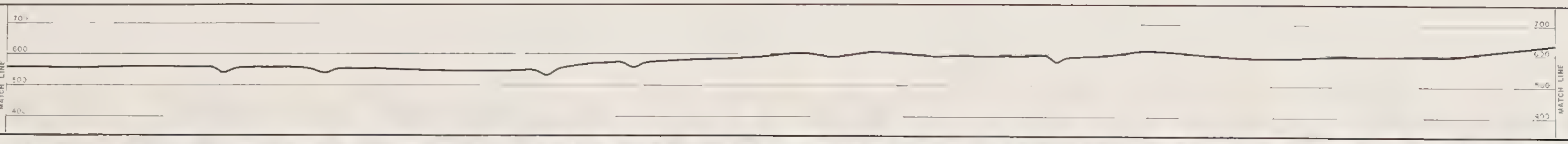
TITLE ALIGNMENT SHEET FOR BEAR-SLAVE UPLAND PHYSIOGRAPHIC DIVISION

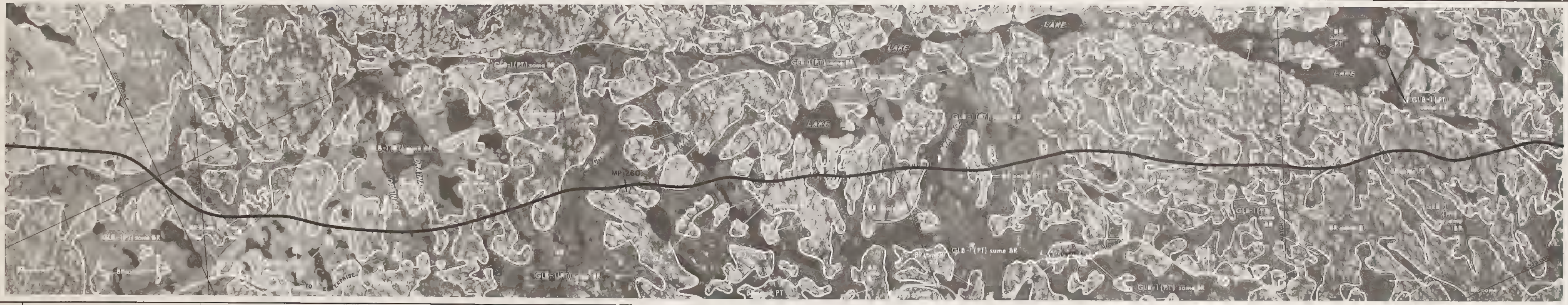
DRAWING/PLAN No. 0700-04 — SHEET 4 OF 8

FILE No.

DRILL HOLE DATA

PIPELINE PROFILE / ACCESS ROAD





REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cbl(s) cobble(s)	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Br bedrock	Gr Grass	Ms Moss

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

DESIGN DATA

MATCH LINE

FOOTAGE THIS SHEET

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION	[C]	PERMANENT ACCESS ROAD	(A)
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	(A)
PROPOSED TEMPORARY WHARF	△	EXISTING HIGHWAY	
EXISTING WHARF	▲	CONSTRUCTION CAMP (TEMPORARY)	(C)
CNT REPEATER STATION		BORROW AREA	

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	8.625" O.D. x 0.188" W.T. GR 46
STANDARD WALL	8.625" O.D. x 0.322" W.T. GR 46

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 21548	150,151,152,153 154,155 192,193,194

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1600 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO.	DATE	REVISION
	APR 1975	GENERAL

UTM GRID ZONE 11

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	MARCH 3, 1975
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
SUPV. ENGINEER	

ALIGNMENT SHEET FOR
BEAR-SLAVE UPLAND
PHYSIOGRAPHIC DIVISION

SHEET 5 OF 8 0700-05

FILE No.

INDEX MAP

DRILL HOLE DATA

PROFILE

PIPELINE ——

ACCESS ROAD - - -

MATCH LINE

800
700
600
500

MATCH LINE

REFER TO
PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Low plasticity
S Sand
M Silt
cobbles cobbles
C Clay

O Organic
H High plasticity
Pt Peat
P Poorly graded
bldrs Boulders
W Well graded

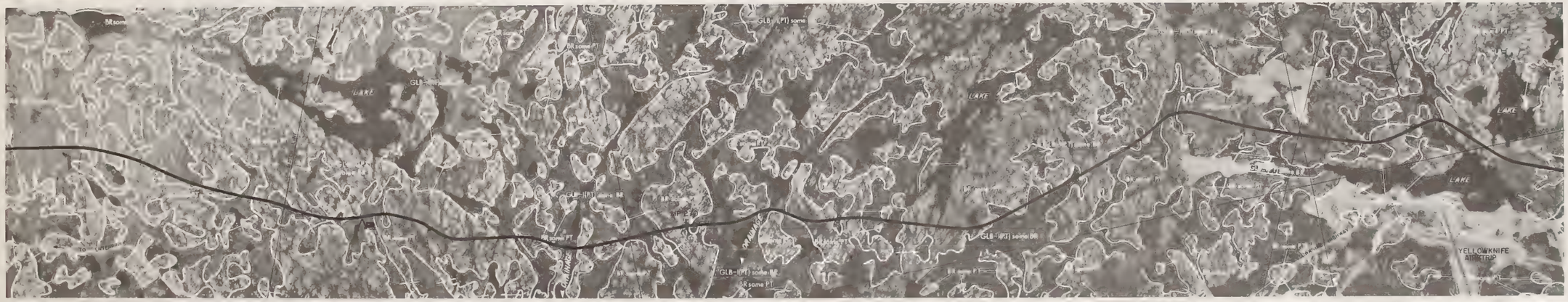
ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

and 35 to 50%
some 20 to 35%

little 10 to 20%
trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock
gr ground



TERRAIN TYPING AND TERRAIN SENSITIVITY LEGEND
FOR

BR BEDROCK TERRAIN: RIDGES AND NEARBY STEEP MOUNTAIN SLOPES

CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

DISTANCE CHAINAGE (metres)

DESIGN DATA

MAT. HI LINE

MP 266.2

BORROW AREA
PROVE IN INTERPRETATION

MP 267.1

MAT. HI LINE

MP 276.0

FOOTAGE THIS SHEET

UTM GRID ZONE 11

INDEX MAP

PIPELINE LEGEND

PROPOSED PIPELINE ROUTE
COMPRESSOR STATION
MATERIAL STOCKPILE SITE
PROPOSED TEMPORARY WHARF
EXISTING WHARF
CNT REPEATER STATION
PROPOSED HELIPAD
PERMANENT ACCESS ROAD
TEMPORARY ACCESS ROAD
EXISTING HIGHWAY
CONSTRUCTION CAMP (TEMPORARY)
BORROW AREA

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MISCELLANEOUS MATERIAL

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIM SELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMEN CLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONS TRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	8.625" O.D. x 0.188" W.T. GR. 46
STANDARD WALL	8.625" O.D. x 0.322" W.T. GR. 46

AERIAL PHOTOGRAPHY

ROLL NO.	PHOTO NO.
A 21548	150, 151, 152 133, 134, 135

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO.	DATE	REVISION	APP'D
1	APR 5 1975	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DATE	
SCALE	1" TO 2000'
DRAWN BY	
CHECKED BY	
APPROVED BY	
ENGINEER	

TITLE: ALIGNMENT SHEET FOR BEAR-SLAVE UPLAND PHYSIOGRAPHIC DIVISION

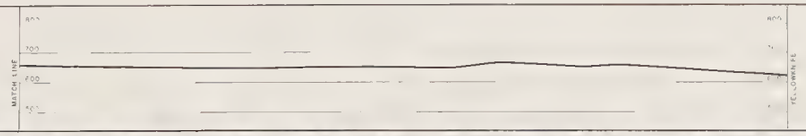
DRAWING/PLAN No. 0700-06

SHEET 6 OF 8

FILE No.

DRILL HOLE DATA

PROFILE
PIPELINE
ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

MATCH LINE

BORROW AREA (PHOTO INTERPRETATION)

ACCESS ROAD TO BORROW AREA

MP 280.0

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 11

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel
L Low plasticity
S Sand
M Silt
(Bld) (cobble sl)
C Clay
O Organic
H High plasticity
Pt Peat
P Poorly graded
(Bld) Boulders
W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

and 35 to 50%
some 20 to 35%
little 10 to 20%
trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

PIPELINE LEGEND

- PROPOSED PIPELINE ROUTE
- COMPRESSOR STATION
- MATERIAL STOCKPILE SITE
- PROPOSED TEMPORARY WHARF
- EXISTING WHARF
- CNT REPEATER STATION
- PROPOSED HELIPAD
- PERMANENT ACCESS ROAD
- TEMPORARY ACCESS ROAD
- EXISTING HIGHWAY
- CONSTRUCTION CAMP (TEMPORARY)
- BORROW AREA

NOTE THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES

MAJOR ABBEYS MATERIAL

GENERAL NOTES

THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION

2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER - 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	8.625 O.D. x 0.188" W.T. GR 46
STANDARD WALL	8.625 O.D. x 0.322 W.T. GR 46

AERIAL PHOTOGRAPHS

ROLL NO.	PHOTO NO
A 21548	133, 134, 135 146, 147, 148, 149

OPERATING LICENSE NO	
CONSTRUCTION PERMIT NO	
DESIGN PRESSURE	1440 PSI
MINIMUM TEST PRESSURE	1800 PSI
MAXIMUM OPERATING PRESSURE	1250 PSI

NO.	DATE	REVISION	APP'D
	2003 07 15	GENERAL	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 0.5 1.0 Miles

DRAWN BY	
CHECKED BY	
APPROVED BY	

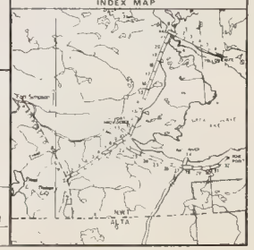
TITLE ALIGNMENT SHEET FOR BEAR-SLAVE UPLAND PHYSIOGRAPHIC DIVISION

DRAWING/PLAN NO. 0700-07

SHEET 7 OF 8

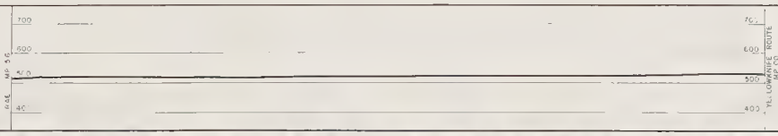
FILE NO.

INDEX MAP



DRILL HOLE DATA

PROFILE — PIPELINE ACCESS ROAD



CONSTRUCTION DESIGN

REFERENCE DRAWING & NOTES

METER AND REGULATOR STATION

YELLOWKNIFE ROUTE SECTION

ACCESS TO BOREHOLE AREA

MP 5.6

MP 0.0

MP 2.1.1

DESIGN DATA

FOOTAGE THIS SHEET

UTM GRID ZONE 1

REFER TO PREFACE TO ALIGNMENT SHEETS

SOIL COMPONENT SYMBOLS & ABBREVIATIONS

G Gravel	O Organic
L Low plasticity	H High plasticity
S Sand	Pt Peat
M Silt	P Poorly graded
cobble cobble st	bldrs Boulders
C Clay	W Well graded

ABBREVIATIONS
MINOR SOIL COMPONENT PERCENTAGES

a and 35 to 50%	l little 10 to 20%
s some 20 to 35%	t trace 1 to 10%

MISCELLANEOUS ABBREVIATIONS

Bdrk bedrock	Gr Grass	Ms Moss
[illegible]	Lvd layered	org organic
[illegible]	layd layered	veg vegetation
[illegible]	[illegible] medium	vrd varved

TERRAIN SENSITIVITY LEGEND

LOWLAND
MODERATE

BEDROCK TERRAIN: ROCKS AND NEARBY STEEP MOUNTAIN SLOPES

DELTA OR FINE SAND PLAIN: OCCASIONAL FINE SAND AND SILT WITH SOME SILTY CLAY LAYERS

BELT AND COARSE SAND PLAIN: FINE TO COARSE SAND WITH SOME

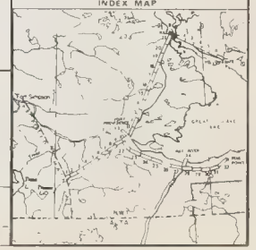
GLACIAL LAKE BASIN: BETTER DRAINED TYPE
A CHARACTERIZED WITH LITTLE OR ONLY PLASTIC OR NO THERMOKARST FEATURES

THERMOKARST TYPE: POOR
WITH PLASTIC SILTY CLAY IN THE

PEAT AND A DEAD STAGNANT WATER

PATTERNED PEATLAND IN DEPRESSIONS, OFTEN EXTENSIVE 3 TO 15 FT OF PEAT

INDEX MAP



PIPELINE LEGEND

PROPOSED PIPELINE ROUTE		PROPOSED HELIPAD	
COMPRESSOR STATION	C	PERMANENT ACCESS ROAD	A
MATERIAL STOCKPILE SITE		TEMPORARY ACCESS ROAD	A
PROPOSED TEMPORARY WHARF		EXISTING HIGHWAY	
EXISTING WHARF		CONSTRUCTION CAMP (TEMPORARY)	C
CNT REPEATER STATION		BORROW AREA	

NOTE: THE LOCATION OF TEMPORARY CONSTRUCTION FACILITIES AND PERMANENT INSTALLATIONS IS NOT FINAL AND IS SUBJECT TO CHANGE UPON COMPLETION OF DETAILED SITE INVESTIGATION AND LOGISTICS STUDIES.

MATERIAL ACCESS MATRIX

GENERAL NOTES

1. THE TERRAIN AND SOILS INFORMATION ON THIS DRAWING IS BASED ON AIRPHOTO INTERPRETATION AND DRILL HOLE DATA AS INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSURE HIMSELF OF THIS INFORMATION
2. SEE PREFACE TO ALIGNMENT SHEET FOR NOMENCLATURE USED FOR SOIL DESCRIPTION ON DRILL HOLE LOGS
3. MINIMUM DEPTH OF COVER = 2.5 FEET
4. TEMPORARY ACCESS ROAD FOR PIPELINE CONSTRUCTION WILL BE LOCATED ALONG PIPELINE RIGHT OF WAY EXCEPT WHERE OTHERWISE SHOWN

PIPE DATA

CARRIER	3500 O.D. x 0.109 W.T. GR 42
STANDARD WALL	3500 O.D. x 0.216 W.T. GR 42

AERIAL PHOTO RANGE

ROLL NO	PHOTO NO
A 21548	249,250,251

OPERATING LICENSE NO
CONSTRUCTION PERMIT NO
DESIGN PRESSURE 1440 PSI
MINIMUM TEST PRESSURE 1800 PSI
MAXIMUM OPERATING PRESSURE 1250 PSI

DATE	REVISION	APPD
1-3-7	AS NOTED	

FOOTHILLS PIPE LINES LTD.

NORTHWEST TERRITORIES

GREAT SLAVE LAKE COMMUNITY SERVICING

0 5 10 Miles

SCALE 1" = 1/4 MILE
DRAWN BY
CHECKED BY
APPROVED BY
DATE SEPT

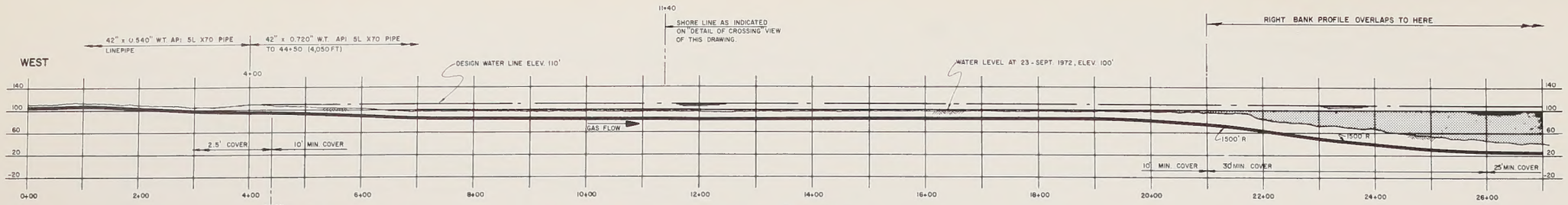
TITLE: GAS SERVICE TO RAE

DRAWING PLAN NO 0700-08
SHEET 8 OF 8

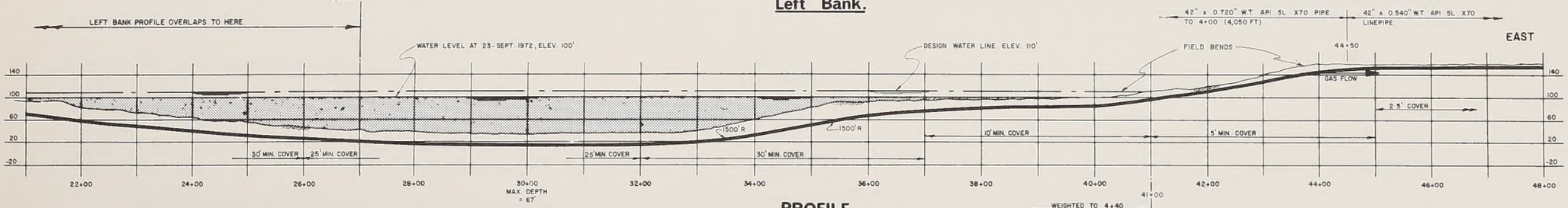
RIVER CROSSINGS

MACKENZIE RIVER (EAST CHANNEL)
MACKENZIE RIVER (FORT SIMPSON)

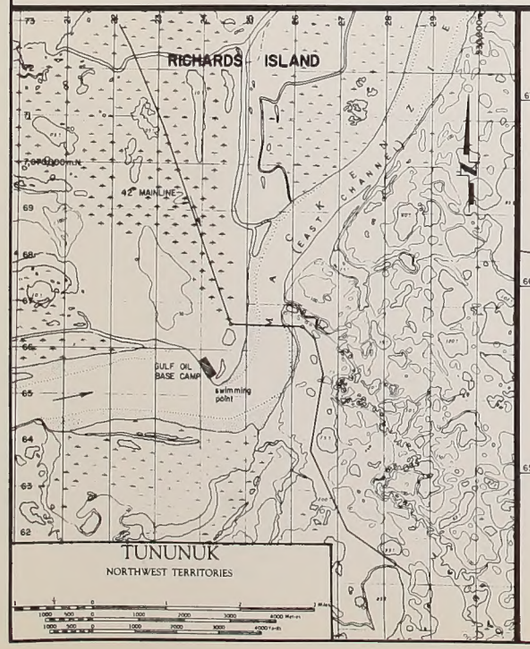
FOOTHILLS PIPE LINES LTD.

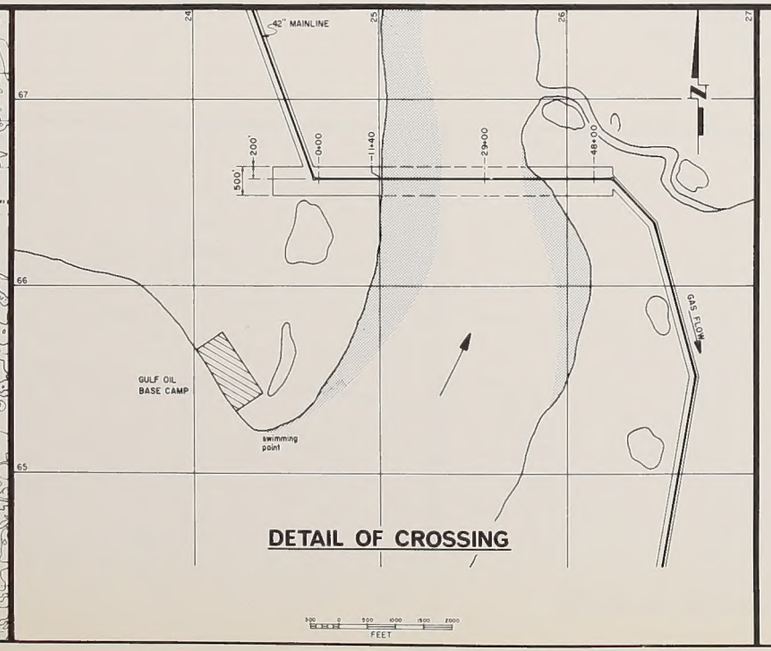


PROFILE. Left Bank.

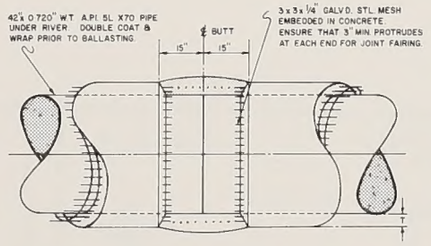


PROFILE. Right Bank.





DETAIL OF CROSSING



A UNIFORM THICKNESS OF CONCRETE BALLAST TO BE APPLIED THAT WILL COMPLETELY ENVELOP THE PIPE AS PER THE FOLLOWING TABLE:

CONCRETE WT. LBS/CU.FT	150	200	250
COATING, THICKNESS (T)	52	32	24
LAYERS OF MESH	2	1	1

THIS BALLAST TO BE APPLIED TO PIPE SECTIONS PRIOR TO DELIVERY AT CROSSING SITE & IS CALCULATED TO GIVE A NEGATIVE BUOYANCY OF 15 LBS/FT IN A SURROUNDING MEDIUM OF 72LBS/CU. FT.

AFTER THE HYDROSTATIC TEST & PRIOR TO PULLING THE CROSSING, THE PIPE JOINTS TO BE TREATED AS FOLLOWS:

1. EXPOSED PIPE TO BE COLD DOPED.
2. A PORTION OF MESH TO BE TACK WELDED TO PROTRUDING MESH STUBS OF MAIN BALLAST.
3. EDGES OF EXISTING CONCRETE TO BE COATED WITH 'UNIWELD' OR EQUAL CONCRETE PRIMER, TO ENHANCE BOND.
4. HAND TROWEL CONCRETE CLOSURE & FAIR INTO EXISTING CONCRETE TO FORM A CONTINUOUS COATING OF BALLAST.

DETAIL AT PIPE JOINT.

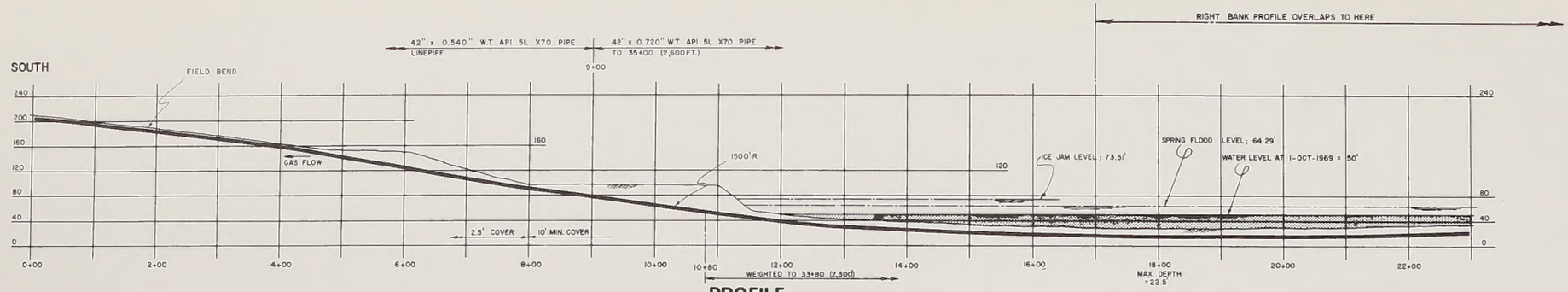
GENERAL NOTES

1. BANK MATERIAL IS PREDOMINANTLY FROZEN SAND.
2. PERMAFROST TABLE EXTENDS UNDER THE RIVER BUT THE LIMITS ARE UNKNOWN.
3. CROSSING SITE IS LOCATED APPROXIMATELY 62 MILES NORTH OF INUVIK, DISTRICT OF MACKENZIE, N.W.T.
4. SHORE DITCH TO BE BACKFILLED WITH DREDGED SPOIL OBTAINED FROM RIVER DITCH EXCAVATION.
5. RIVER DITCH TO BE BACKFILLED USING MATERIAL OBTAINED FROM THE RIVERBED AT A DOWNSTREAM LOCATION.
6. WORK/STORAGE PADS, FORMED DURING CONSTRUCTION, TO BE LEFT IN PLACE.

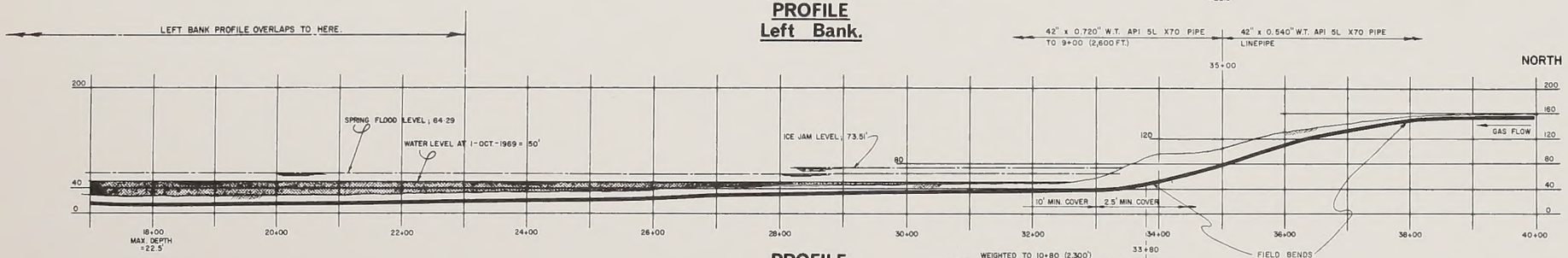
REV.	REMARKS	DATE

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

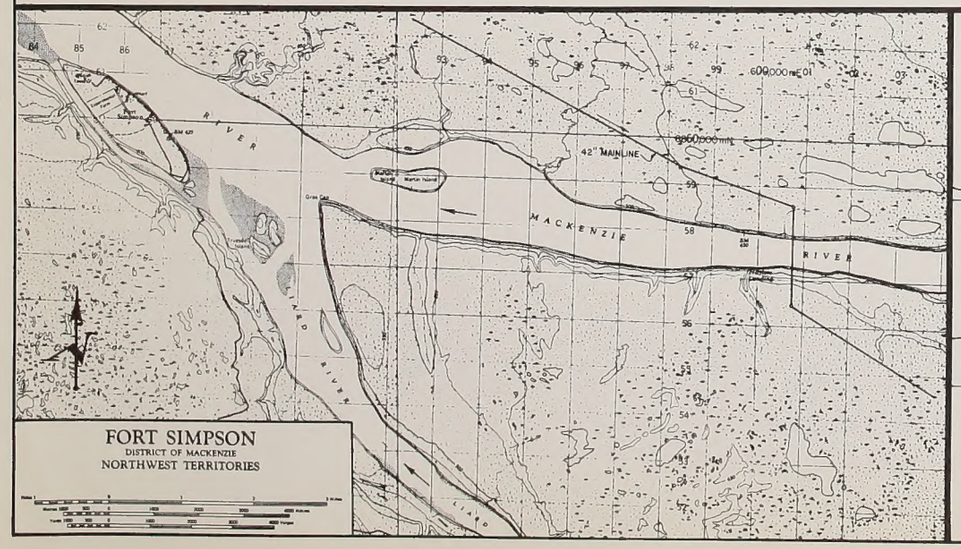
DATE	10/FEB./75	TITLE	42" MAINLINE CROSSING MACKENZIE RIVER EAST CHANNEL
SCALE			
DRAWN BY	A.F. MACDO.		
CHECKED BY			
APPROVED BY		DRAWING PLAN No.	FILE No.
SUPV. ENGINEER		0900-01	

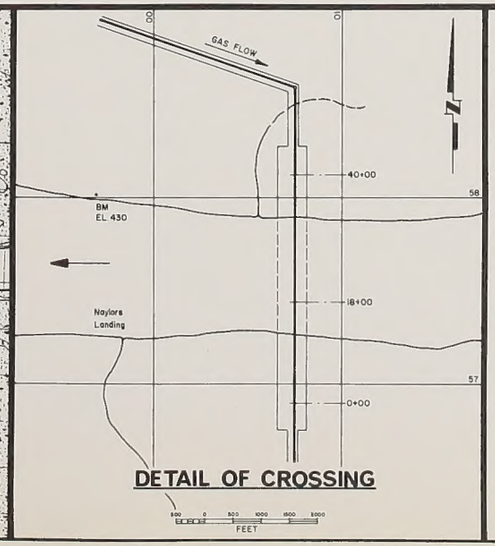


PROFILE
Left Bank.

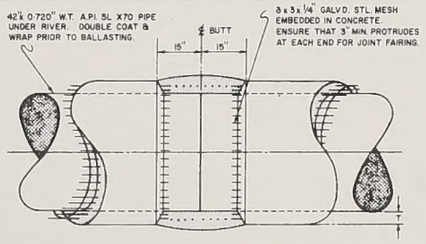


PROFILE
Right Bank.





DETAIL OF CROSSING



A UNIFORM THICKNESS OF CONCRETE BALLAST TO BE APPLIED THAT WILL COMPLETELY ENVELOP THE PIPE AS PER THE FOLLOWING TABLE:

CONCRETE WT. LBS/CU.FT.	150	200	250
COATING, THICKNESS (T)	5.2	3.2	2.4
LAYERS OF MESH	2	1	1

THIS BALLAST TO BE APPLIED TO PIPE SECTIONS PRIOR TO DELIVERY AT CROSSING SITE & IS CALCULATED TO GIVE A NEGATIVE BUOYANCY OF 15 LBS/FT IN A SURROUNDING MEDIUM OF 72LBS/CU. FT.

AFTER THE HYDROSTATIC TEST & PRIOR TO PULLING THE CROSSING, THE PIPE JOINTS TO BE TREATED AS FOLLOWS:

1. EXPOSED PIPE TO BE COLD DOPED.
2. A PORTION OF MESH TO BE TACK WELDED TO PROTRUDING MESH STUBS OF MAIN BALLAST.
3. EDGES OF EXISTING CONCRETE TO BE COATED WITH 'UNIWELD' OR EQUAL CONCRETE PRIMER, TO ENHANCE BOND.
4. HAND TROWEL CONCRETE CLOSURE & FAIR INTO EXISTING CONCRETE TO FORM A CONTINUOUS COATING OF BALLAST.

DETAIL AT PIPE JOINT.

GENERAL NOTES

1. THE RIVER FLOODPLAIN AND (PRESUMABLY) RIVER BOTTOM IS ARMOURED WITH BOULDER AND COBBLE UP TO 4 FEET DIAMETER.
2. ISOLATED POCKETS OF PERMAFROST ARE KNOWN TO EXIST IN THE RIVER BANKS.
3. INITIAL 2 FEET OF BACKFILL MATERIALS FOR RIVER DITCH TO BE SELECT COBBLE, NOT TO EXCEED 10" DIAMETER.
4. SURFACE BOULDER COVER TO BE INSTALLED OVER THE DITCH LINE THROUGHOUT FLOODPLAIN AND RIVER BANKS.

REV.	REMARKS	DATE

FOOTHILLS PIPE LINES LTD.
NORTHWEST TERRITORIES

DATE	11/FEB./75	TITLE	42" MAINLINE CROSSING MACKENZIE RIVER near Ft. Simpson
SCALE			
DRAWN BY	A. F. MACDO.		
CHECKED BY			
APPROVED BY		DRAWING/PLAN No.	0900-02
SUPV. ENGINEER		FILE No.	